Zoobenthos Data from Upper Frobisher Bay, 1967-1973

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ABSTRACT

Wacasey, J. W., E. G. Atkinson, and L. Glasspoole. 1979. Zoobenthos data from upper Frobisher Bay, 1967-1973. Can. Data Rep. Fish. Aquat. Sci. 164: 99 p.

Data on marine zoobenthic invertebrates were obtained from samples collected from 1967 to 1973 by grab, trawl, and dredge in depths of water of 25 to 90 m in an area of 1.2 km^2 located in upper Frobisher Bay, southern Baffin Island. Methods of collecting and processing samples, and directions for the presentation of data are given.

Results are presented in tabular form and consist of density and biomass of species collected by grab, species representation and biomass of species collected by trawl and dredge, and values of substances in the substrate. Associated collecting data together with some data on benthic fish and macrophytes are included.

Key words: Zoobenthos: density, biomass, distribution; marine invertebrates; Canada; Arctic; Frobisher Bay; marine sediments.

RESUME

Wacasey, J. W., E. G. Atkinson, and L. Glasspoole. 1979. Zoobenthos data from upper Frobisher Bay, 1967-1973. Can. Data Rep. Fish. Aquat. Sci. 164: 99 p.

Des données relatives aux invertébrés benthiques ont été recueillies à partir d'échantillons prélevés de 1967 à 1973, à la benne, à la drague et au chalut à des profondeurs allant de 25 à 30 mètres sur une superficie de 1,2 km^2 située dans le haut de la Baie de Frobisher, au sud de l'Ile de Baffin.

La description des méthodes de prélèvement et de préparation des échantillons ainsi que des indications sur la présentation des données sont incluses.

Les résultats, présentés sous forme tabulaire, comprennent la biomasse et la densité des espèces prises à le benne, les noms et la biomasse des espèces prises au chalut et à la drague et une description quantitative des composants du substrat. A ceci se rejoutent des données relatives aux prélèvements ainsi que certaines données relatives aux poissons démersaux et aux macrophytes.

INTRODUCTION

Zoobenthic studies were initiated in 1967 in upper Frobisher Bay, southern Baffin Island, as part of a multidiscipline program devised by the Biological Oceanography Section of the Arctic Biological Station. The objective of these continuing studies is to determine the nature and magnitude of the role of benthic invertebrates in an arctic marine ecosystem.

The presentation of these data was intended as the fourth in a series of related technical reports pertaining to the station 5 area; however, the zoobenthic studies were interrupted by more urgent projects in other parts of the Canadian arctic. With the termination of the above projects, attention was again turned to the Frobisher Bay studies, and this report represents the first of a series of planned data reports on the zoobenthos of Frobisher Bay. At the beginning of the zoobenthic studies in 1967 a standard procedure for collecting and processing samples was developed for the presentation of similar kinds of data from different stations. Such an approach allows the data to be used in comparing benthic communities in different parts of the arctic, and in other areas of the world.

The data in the present report were derived from collections made periodically from 1967 to 1973, excluding the years 1971 and 1972 in which no samples were taken. The data were derived from grab, trawl, dredge, and substrate samples and are presented in tabular form in this order. Data from grab samples, taken to measure infauna, are listed chronologically by station and consist of values of density and biomass of species. Trawls and dredges were taken to measure the epifauna, and the derived data consist of species representation and biomass values. Samples of substrate were usually collected when grab samples were taken. Substrate data consist of values of particle-size distribution, pH, nitrate-nitrogen, ammonia-nitrogen, total nitrogen, organic carbon, carbon-nitrogen ratio, calcium, potassium, magnesium, phosphorus, manganese, zinc, copper, and silicon. Associated collecting data are presented in tabular form and are included in each of the sections pertaining to the method of sampling. Some data on biomass of benthic algae and fish are included.

Zoobenthic studies together with the chemical, zooplankton, and phytoplankton studies (Grainger, 1971a; Grainger, 1971b; Bursa, 1971) have resulted in substantial amounts of data pertaining to the station 5 area. These data have been amassed from several years of replicate sampling and have provided an insight into the structure and level of activity of an arctic marine ecosystem. The study area has become one of the most thoroughly worked locations of the Canadian arctic. The zoobenthic community, excluding the protozoans, consists of 448 species which account for 12 to 137 g m^{-2} of dry weight biomass. This area as compared to other areas that have been sampled (Wacasey, 1974; Wacasey, Atkinson, and Kinlough, 1976; Wacasey, Atkinson, Derick, and Weinstein, 1977) has a diverse and abundant zoobenthic fauna which is contrary to the general impression that prevails about arctic regions.

DESCRIPTION OF STUDY AREA

The 1.2 km^2 area of study (stations 5, 5a, 5c-g) is located between Cairn and Mair Islands, approximately 8 km south of the settlement of Frobisher Bay (Fig. 1). The bottom, which is irregular, slopes from each of the islands towards a trench which bisects the area along its long axis. The depth of the water at the upper end of the trench is about 60 m. The trench bifurcates as it courses towards the lower end of the study area, and the depth of water of the trench is 100 m at the southern boundary of the area. The bottom is soft, consisting of fine sediment, with scattered rocks and boulders. Bottom temperatures and salinities at the sampled depths of 25 to 90 m are fairly constant, varying by no more than 2°C and 2°/$_{oo}$ respectively.

Ice begins to form in late November or early December, depending on the year, gradually increasing to a depth of about 2 m by late May or early June when the snow cover melts, and ice breakup commences.

The tides in upper Frobisher Bay are semi-diurnal with a mean range of 7.3 m and a large range of 11.6 m.

METHODS

ASSOCIATED DATA

Associated data, most of which are self-explanatory, are presented in Tables 3, 11, and 14. The depth of water of a station is that recorded at the time of sampling. Temperature and salinity values are listed for all grab stations. Calibrated reversing thermometers were used to determine temperatures. Prior to 1973 salinity values from collected samples were determined at Bedford Institute in Dartmouth, Nova Scotia. The salinity values for the collections in 1973 were determined at the Arctic Biological Station using a Bissett-Berman model 6230 laboratory salinometer. The temperature and salinity values were usually obtained at a depth within 5 m of the bottom.

ZOOBENTHOS

Grab

Station 5a was sampled 5 times at depths of 26 to 37 m from December 1967 to August 1968. Station 5 was sampled 9 times at depths of 45 to 72 m from July 1968 to August 1970. Stations 5c, 5d, 5e, and 5f were sampled on 23 August 1969. The latter 4 stations make up a depth series of 31 m, 43 m, 58 m, and 73 m, respectively. The locations of the stations are shown in Fig. 1.

A "Petterson" grab (Foerst, Chicago) was used to collect samples, from the M.V. *Calanus* during the open water season, and from the surface of the ice in winter. This grab samples an area of 0.065 m^2 and has a volume of 5 L. On soft bottoms the grab penetrates from 6 to 15 cm of substrate, varying with the type of substrate. Grabs with less than 2 L of substrate or with rocks wedged in the jaws were not kept. Usually, a sample consisted of 6 grabs for a combined surface area of 0.39 m^2 (Table 3).

Following the collection of a set of grabs from a station, substrate and organisms were washed on a stainless steel screen with a mesh size of 0.5 mm; however, the first three collections from station 5a (Dec., Feb., and Apr.) were washed on a screen with a mesh size of 1 mm. Retained invertebrates and debris were preserved in formalin (1 part formaldehyde with 9 parts water) for transporting to the Arctic Biological Station where they were processed.

Processing consisted of sorting, identifying, counting, and weighing the specimens in each sample.

Each sample was sorted by hand using a Wild M5 dissecting microscope. Specimens were identified to species in most cases, and counts of specimens of each species were recorded. Species identification was not attempted for some taxa, such as nematodes, nemerteans, hydroids, and bryozoans, and although several species were involved, they were listed by taxon on a collective basis. In a similar manner sponges, bryozoans, hydroids, and other colonial forms were regarded as one individual or their presence was indicated by an "A". The names of some species are not necessarily the most recent. The name that was decided upon when the species was initially identified has been retained to allow for consistent referral to the species presence at different localities in the Canadian arctic. Protozoans are arbitrarily excluded from this report.

After sorting and identification, specimens were dried (drying oven at 100°C overnight) and weighed on a Sartorius gravimetric balance in grams to four decimal places. The dry weight excludes the tubes of polychaetes and the shells of molluscs, but no effort was made to eliminate the gut contents of the organisms. The calcareous parts of echinoderms and the skeletal spicules of sponges are included in the dry weight because of difficulty in separating organic and inorganic parts.

Data are presented on a m^2 basis. In each sample, number and weight of individuals of each species were multiplied by a factor to convert sample values to m^2 values. For example, values derived from a sample area of 0.39 m^2 were multiplied by the factor 2.5 to obtain the m^2 values. The factor was rounded off to the nearest 0.5 for convenience; thus, a factor of 2.5 instead of 2.6 was used to multiply values of a sample with an area of 0.39 m^2 in converting to m^2 values. A greater degree of accuracy was considered to be unnecessary. Most species collected by grab were considered

to be representative, and the sample values were converted to m^2 equivalents in a consistent manner. In a few cases, as indicated, the sample values were used without converting, because representation of occasionally collected, large, epifaunal species was not known.

Species data for stations and samples are presented in Tables 5 to 10. Density and biomass values for each station are summarized in Table 4.

Benthic algae that was brought up by the grab was retained, dried, and weighed. Station 5a, the 35 m station, yielded sizeable amounts of *Phyllophora* sp. Biomass values of dry algae are listed by collection in Table 17.

Trawl

Trawls were taken for identifying and measuring the epifaunal components of the bottom community. Three preliminary trawls, using a large otter trawl with a trawling width of 4 m, were made in 1967. Data from these trawls are not presented, but identified species that were not found in other collections are included in the species list for the area (Table 1).

In 1968 five small otter trawls were made in depths of water from 55 to 74 m in the vicinity of station 5 (Fig. 2). The small otter trawl had a trawling width of about 2.5 m and the mesh size of the cod end of the net was 0.5 cm. The speed of the ship was 3 to 4 knots and the estimated trawling time varied from 1 to 5 minutes. After collecting, specimens were washed on a 0.5 cm stainless steel screen, separated into taxa, and a wet weight was obtained for each taxa. The animals were preserved in formalin for transporting to the Arctic Biological Station, where they were identified and dried. Dry weight was determined in the same manner as that described for the infauna. Associated data and biomass values are presented in Table 11. Dry weight values of taxa are presented in Table 12 and trawled species are listed in Table 13.

Since it is difficult to measure the effective trawling distance, a method was developed using a dredge to obtain more reliable biomass estimates of the epifauna.

Dredge

The dredge consisted of an iron frame with a 2 m length net attached. The width of the dredge was 36 inches and the mesh size of the net at the cod end was 0.5 cm. This dredge was employed in the following way. The M.V. *Calanus* was anchored in the spot of the desired depth to be sampled. The dredge was carried in a powered canoe to a distance of about 100 m from the *Calanus* and dropped into the water. After the dredge had settled

to the bottom, it was winched in from the *Calanus*. The length of wire was determined from the meter-block when the dredge started to move, as indicated by a change in the angle of the wire. Knowing the depth of water and the amount of wire that was out at the beginning of a dredge haul, the horizontal distance that the dredge traversed along the bottom was calculated to within about 5 metres. Thirteen dredge samples were taken on the bottom in depths of water from 40 to 68 m in 1969, 1970, and 1973 (Fig. 3). Each sample consisted of 1 to 5 dredge hauls. After collection, the specimens were treated in a similar manner to those described above in the section on trawls. Associated data and biomass values of the dredges are presented in Table 14. Dry weight values of taxa are presented in Table 15 and identified dredged species are listed in Table 16. Tables 18 and 19 include biomass data for algae and fish.

SUBSTRATE ANALYSIS

Samples of sediments were obtained from stations 5a, 5, 5c, 5d, 5e, and 5f at the time that grab samples were taken. Only a substrate sample was taken at station 5g. Most of the substrate samples were dried soon after collection. Substrate samples were not taken when trawl and dredge samples were collected.

Mechanical and chemical analyses of sediments were made by the Macdonald College Soil Testing Laboratory under the supervision of A. F. MacKenzie. Synoptic procedures provided by Dr. MacKenzie are presented below. Where applicable, values are related to 1 g of oven-dried sediment. In most cases the values of the determined substances are presented as levels of the substances in forms that are available to zoobenthos and phytobenthos; however, the significance and relationship of the substances to the biota remain to be evaluated. Data from sediment analyses are presented in Tables 21-24.

Synoptic procedures for sediment analysis

1. Particle size analysis was made by the hydrometer method described by Day (1). Three fractions were recognized; particles of 0.05-2.00 mm, particles of 0.002-0.05 mm, and particles less than 0.002 mm effective diameter.

   For this report, values were transformed to the Wentworth Scale, with particle-size fractions of 0.063-2.00 mm, 0.004-0.063 mm, and less than 0.004 mm.

2. pH was determined with a glass calomel electrode combination on a suspension of sample/0.01M $CaCl_2$ in a 1:3 ratio.

3. Nitrogen was determined for total and inorganic forms of nitrogen. Total nitrogen was determined by the semi-micro Kjeldahl procedure described by Bremner (2).

Inorganic forms of nitrogen were extracted with 1N KCl from freshly thawed samples by modification of the method described by Bremner (3). Nitrate and ammonia levels in the extracts were determined colorimetrically by the methods currently in use at the Macdonald College Soil Testing Laboratory.

4. Organic carbon was determined by the Walkley-Black procedure as described by Allison (4).

5. Potassium, calcium, and magnesium were extracted by the procedure described by Jackson (5) with a sample/extractant ratio of 1:10 and an extraction time of 15 minutes. Potassium was determined by flame photometry and calcium and magnesium were determined by atomic absorption spectrophotometry.

6. Phosphorus was extracted using a modification of the procedure for available P (phosphorus soluble in dilute acid-fluoride) as described by Jackson (6). The sample/extractant ratio was 1:10 with an extraction time of 1 minute. Determination was made by the chlorostannous-reduced molybdophosphoric blue color method (7) adapted to automated analysis.

7. Total phosphorus was obtained from dried ground samples digested with 60% perchloric acid ($HClO_4$) by the method described in Black (9). Total P was determined colorimetrically according to Jackson (8) by the vanadomolybdophosphoric yellow color method at 470 nm.

8. Iron, manganese, and zinc were extracted from samples using 1N HCl with a sample/extractant ratio of 1:10 and an extraction time of 30 minutes. Concentrations in the extracts were determined by atomic absorption spectrophotometry (10).

9. Copper was obtained by the EDTA extraction method as modified by Makhan (11). Sample/extractant ratio was 1:10 with an extraction time of 30 minutes. Extracted copper concentrations were determined by atomic absorption spectrophotometry.

10. Silicon was extracted by the method described by McKeague and Cline (12). Dried ground sediments were shaken in a 1:1 ratio with 0.01M $CaCl_2$ for 24 hours and centrifuged. Supernatant was diluted and silicon content was determined colorimetrically at 830 nm after reduction of the yellow silicomolybdate complex according to the method of Voinovitch et al. (13).

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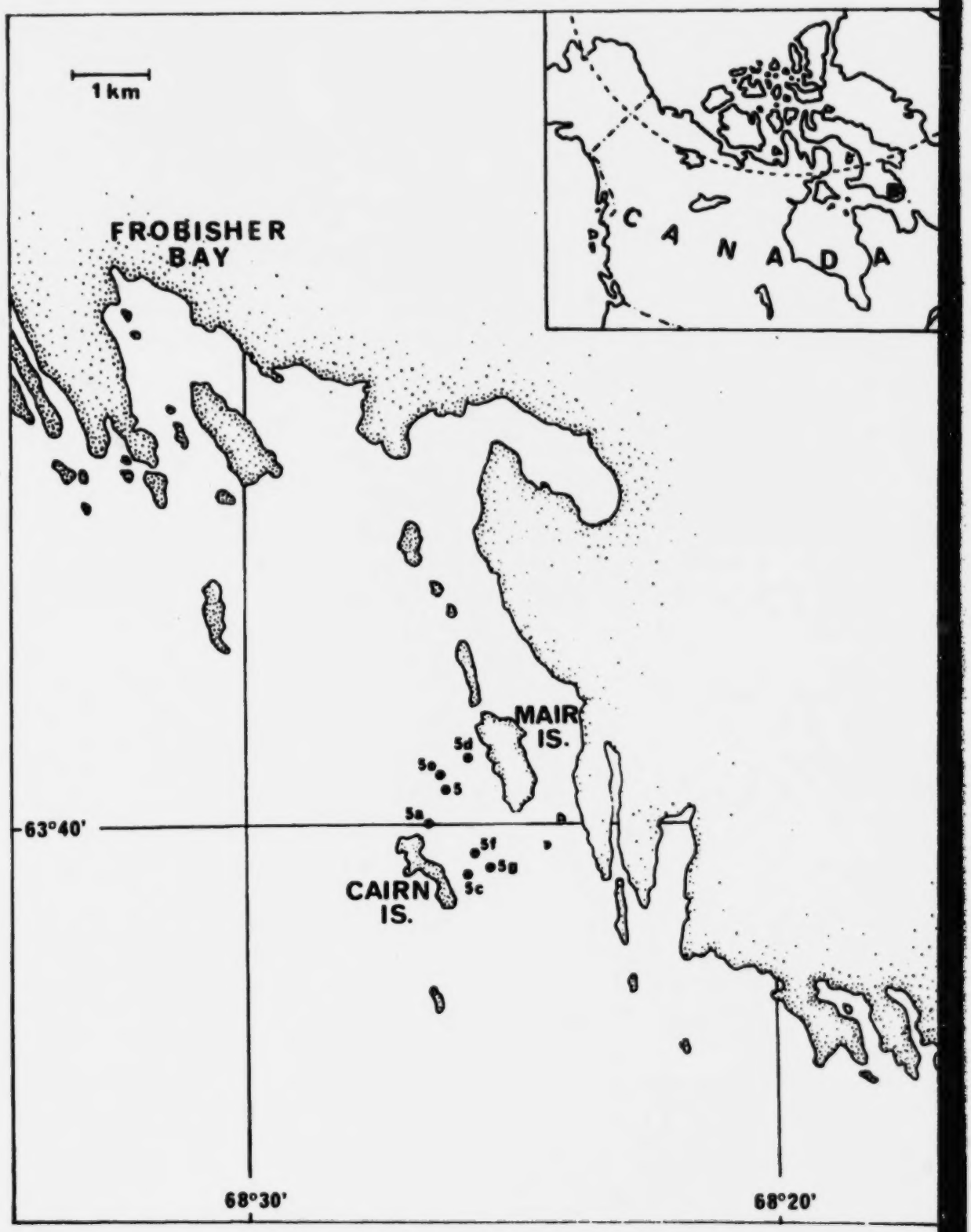

Fig. 1. Stations sampled by grab in upper Frobisher Bay, 1967-1970.

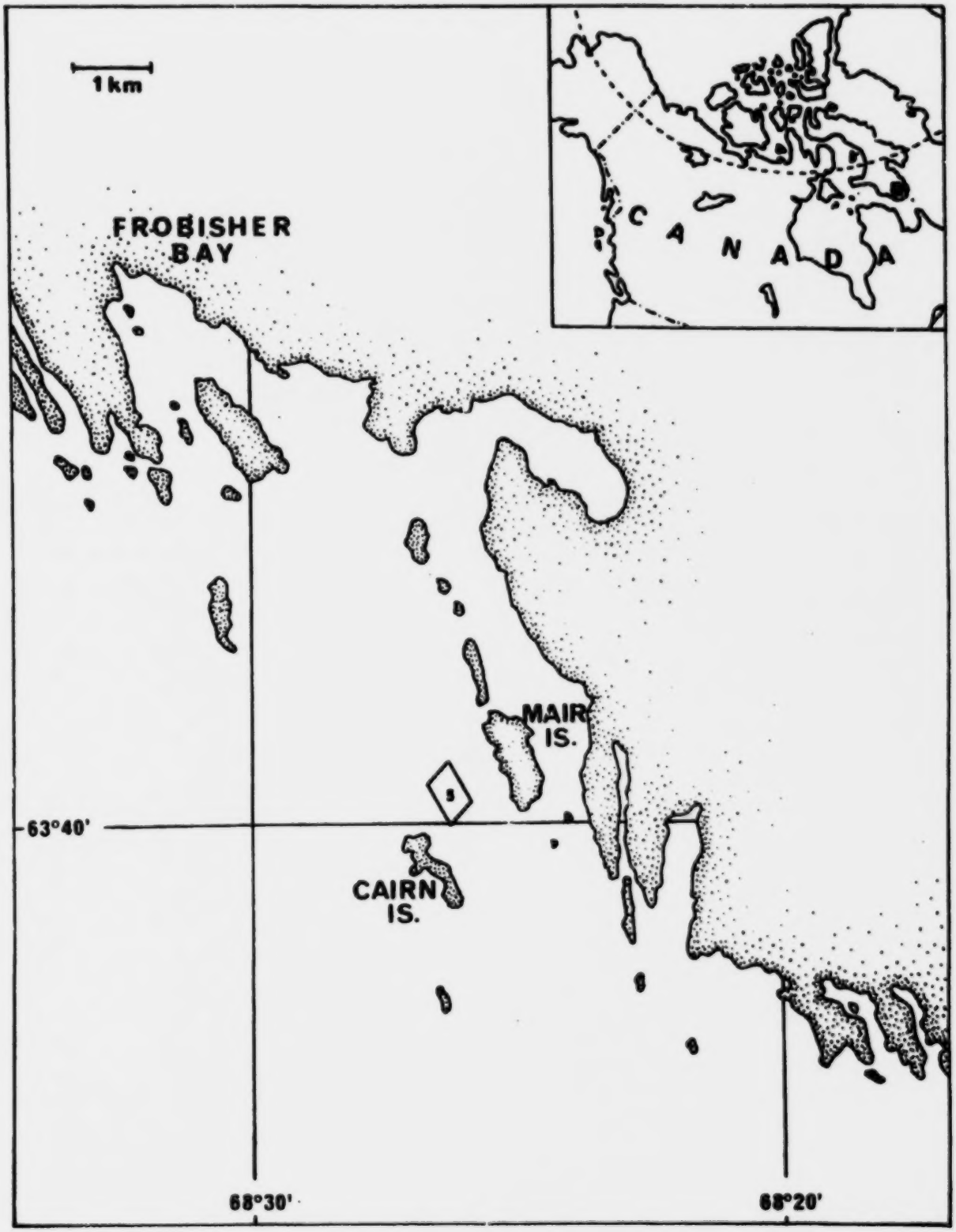

Fig. 2. Area sampled by trawl in upper Frobisher Bay, 1967-1968.

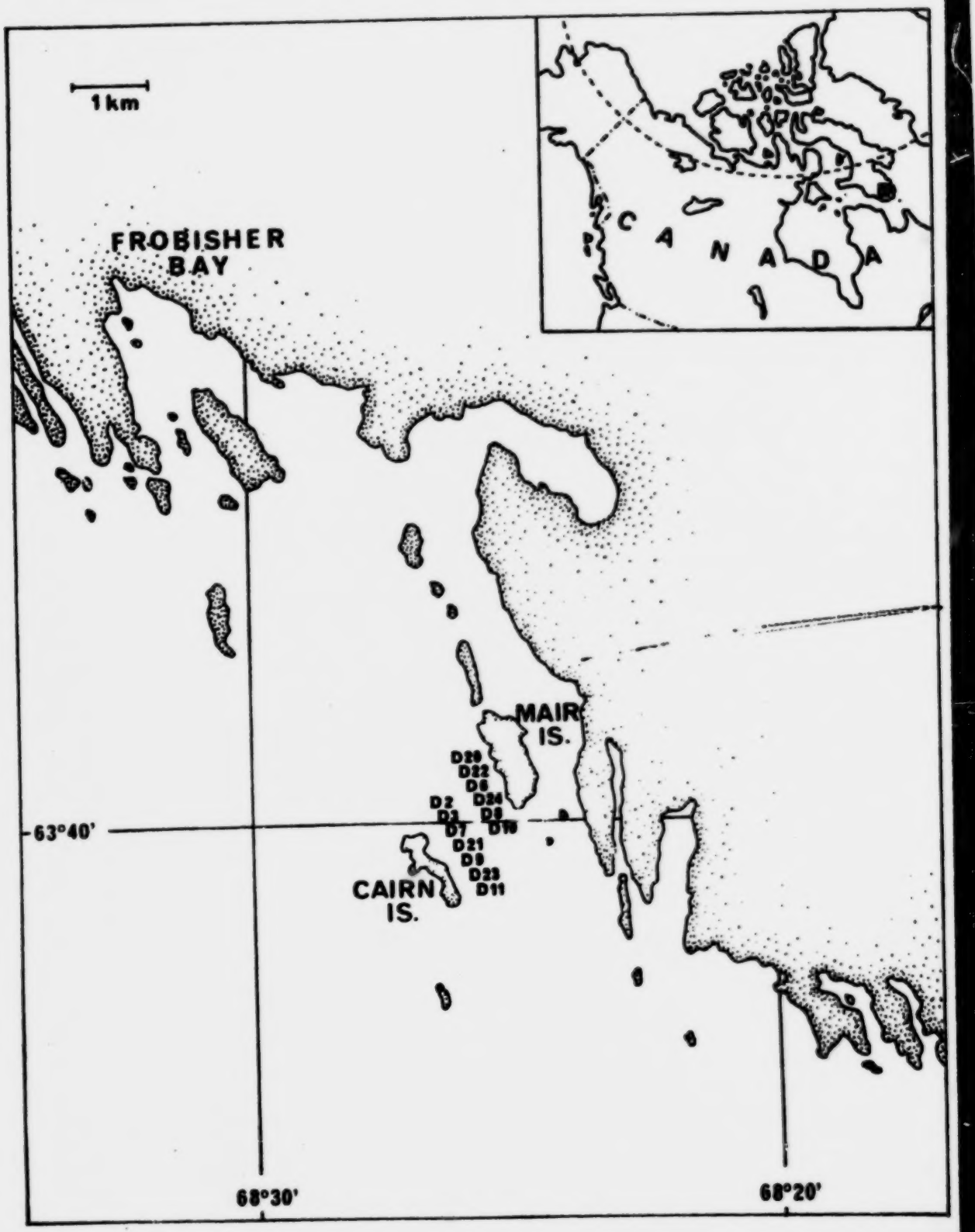

Fig. 3. Stations sampled by dredge in upper Frobisher Bay, 1969-1973.

Table 1. Species of invertebrates collected from the station 5 area in upper Frobisher Bay, 1967-1973.

Species	No.	Species	No.
ANNELIDA:Hirudinea	1	*Fabricia sabella*	
Leech		*Flabelligera affinis*	
		Gattyana cirrosa	
ANNELIDA:Polychaeta	116	*Harmothoe extenuata*	
Ammotrypane breviata		*Harmothoe imbricata*	
Ampharete acutifrons		*Harmothoe nodosa**	
Ampharete arctica		*Harmothoe oerstedi**	
Amphitrite cirrata		Hesionid	
Amphitrite groenlandica		*Heteromastus* sp.	
Antinoella badia		*Lanassa venusta*	
Apistobranchus tullbergi		*Laonice cirrata*	
Aricidea jeffreysi		*Lacnome kroyeri*	
Aricidea suecica		*Laphania boecki*	
*Autotytus cornutus***		*Leaena abranchiata*	
Brada granosa		*Leiochone polaris*	
Brada inhabilis		*Lumbriclymene minor*	
Brada villosa		*Lumbrineris fragilis*	
Branchiomma infarcta		*Lumbrineris minuta*	
Capitella capitata		*Lumbrineris tenuis*	
Chaetozone setosa		*Maldane sarsi*	
Chaetozone sp.		*Melinna cristata*	
Chitinopoma fabricii		*Micronephthys minuta*	
Chone duneri		*Microspio* sp.	
Chone infundibuliformis		*Myriochele heeri*	
Chone sp. a		*Mystides borealis*	
Chone sp. b.		*Nephtys ciliata*	
Cossura longocirrata		*Nephtys paradoxa*	
Diplocirrus glaucus		*Nereimyra aphroditoides*	
Enipo gracilis		*Nereis zonata**	
Ephesiella minuta		*Nicolea zostericola*	
Ephesiella peripatus		*Nicomache lumbricalis*	
Eteone barbata		*Nicomache quadrispinata*	
Eteone flava		*Owenia fusiformis*	
Eteone longa		*Parahesione* sp.	
Eteone spetsbergensis		*Paraonis gracilis*	
Euchone analis		*Paraonis* sp. a	
Euchone papillosa		*Paraonis* sp. b	
Eumida sp. a		*Petaloproctus tenuis*	
Eumida sp. b		*Pherusa plumosa*	
Euphrosine borealis		*Pholoe minuta*	
Euphrosine cirrata		*Phyllodoce groenlandica*	
Eusyllis blomstrandi		*Pionosyllis compacta*	
Exogone dispar		*Pionosyllis* sp.	
Exogone naidina		*Pista flexuosa*	

Table 1. (cont'd.)

Species	No.	Species	No.
ANNELIDA:Polychaeta		*Andaniella pectinata*	
Pista maculata		*Anonyx compactus*	
Polycirrus medusa		*Anonyx debruyni*	
Polydora caeca		*Anonyx lilljeborgi*	
Polydora caulleryi		*Anonyx nugax*	
Polydora quadrilobata		*Anonyx* sp.	
Polydora sp.		*Argissa hamatipes*	
Potamilla neglecta		*Arrhinopsis longicornis*	
Praxillella affinis		*Arrhinopsis* sp.	
Praxillella gracilis		*Bathymedon obtusifrons*	
Praxillella praetermissa		*Boeckosimus edwardsi*	
Prionospio steenstrupi		*Byblis gaimardi*	
Proclea graffi		*Caprella dubia*	
Pygospio elegans		*Caprella septentrionalis*	
Rhodine loveni		*Dulichia porrecta*	
Sabella crassicornis		*Erichthonius tolli*	
Sabellides borealis		*Eusirus cuspidatus**	
Sabellides octocirrata		*Gammaropsis maculata*	
Scalibregma inflatum		*Gitanopsis inermis*	
Scoloplos armiger		*Guernea nordenskioldi*	
Sphaerodorum gracile		*Halirages fulvocinctus*	
Sphaerosyllis erinaceus		*Halirages megalops*	
Spio filicornis		*Haploops laevis*	
Spirorbis sp.		*Haploops tubicola*	
Spirorbis sp.		*Harpinia serrata*	
Spirorbis sp.		*Harpinia* sp.**	
Stauronereis caecus		*Hippomedon propinquus*	
Syllis cornuta		*Ischyrocerus anguipes*	
Syllis fasciata		*Ischyrocerus latipes*	
Terebellides stroemi		*Ischyrocerus megalops*	
Tharyx acutus		*Ischyrocerus nanoides*	
Thelepus cincinnatus		*Lembos* sp.	
Trichobranchus glacialis		*Lepidepecreum umbo**	
		Melita dentata	
ARTHROPODA:Amphipoda	91	*Melita quadrispinosa*	
*Acanthonotozoma cristatum**		*Melita* sp.	
*Acanthonotozoma inflatum**		*Mesopleustes* sp.	
Acanthonotozoma serratum		*Metopa boecki*	
Aceroides l. latipes		*Metopa bruzelii*	
Aceroides sp.		*Metopa cariana*	
Aeginina longicornis		*Metopa groenlandica*	
Ampelisca eschrichti		*Metopa robusta*	
Ampelisca macrocephala		*Metopa* sp.	
Amphithopsis longicaudata		*Metopella nasuta*	

Table 1. (cont'd.)

Species	No.
ARTHROPODA:Amphipoda	
Metopella sp.	
Monoculodes latimanus	
Monoculodes tuberculatus	
Monoculodes sp. c	
Odius carinatus	
Oediceros borealis	
Oediceros sp.	
Orchomene groenlandica	
Orchomene macroserrata	
Orchomene minuta	
Orchomene serrata	
Paradulichia typica	
*Paramphithoe hystrix**	
Pardalisca cuspidata	
Pardalisca tenuipes	
*Paroediceros lynceus***	
Paroediceros sp.	
Photis tenuicornis	
Phoxocephalus holbolli	
Pleustes media	
Pleustes panopla	
Pleusymtes sp.	
Pontoporeia femorata	
Protomedeia fasciata	
*Rhachotropis aculeata**	
*Schisturella pulchra**	
Socarnes bidenticulatus	
Socarnes vahli	
Socarnes sp.	
*Stegocephalus inflatus**	
Stenopleustes pulchella	
Syrrhoe crenulata	
Syrrhoe sp.	
Tiron spiniferum	
Tryphosella schneideri	
Unciola leucopis	
Westwoodilla brevicalar	
Westwoodilla megalops	
ARTHROPODA:Cirripedia	2
Balanus balanus	
Balanus crenatus	

Species	No.
ARTHROPODA:Cumacea	19
Brachydiastylis resima	
Cumella sp.	
Diastylis goodsiri	
Diastylis lepechini	
Diastylis lucifera	
Diastylis scorpioides	
Diastylis sp.	
Eudorella emarginata	
Eudorella truncatula	
Eudorellopsis deformis	
Lamprops fuscata	
Leptostylis ampullacea	
Leptostylis longimana	
Leptostylis villosa	
Leucon acutirostris	
Leucon fulvus	
Leucon nasica	
Leucon nasicoides	
Leucon pallidus	
ARTHROPODA:Decapoda	8
*Argis dentata**	
*Eualus gaimardi**	
*Lebbeus groenlandica**	
*Lebbeus polaris**	
*Sabinea septemcarinata**	
*Sclerocrangon boreas**	
*Spirontocaris phippsi**	
Spirontocaris spinus	
ARTHROPODA:Isopoda	21
Arcturus baffini	
Desmosoma lineare	
Eugerda globiceps	
Eurycope mutica	
Eurycope pygmaea	
Eurycope sp.	
Gnathia dentata	
Gnathia elongata	
Gnathia maxillaris	
Iollella erostrata	
Janiropsis sp.	

Table 1. (cont'd.)

Species	No.
ARTHROPODA:Isopoda	21
Munna boecki	
Munna fabricii	
Munna kroyeri	
Munna limicola	
Pleurogonium inerme	
Pleurogonium spinosissimum	
Pseudarachna hirsuta	
*Synidotea bicuspida**	
Synidotea sp. a	
Synidotea sp. b*	
ARTHROPODA:Mysidacea	1
*Erythrops erythropthalma***	
ARTHROPODA:Nebaliacea	1
Nebalia bipes	
ARTHROPODA:Ostracoda	11
Cythereis tuberculata	
Cytheridea sp.	
Cytherois sp.	
Cytheropteron punctatum	
Cytheropteron sp.	
Hemicythere finmarchica	
Hemicythere quadridentata	
Hemicythere sp. a	
Hemicythere sp. b	
Macrocythere simplex	
Philomedes globosus	
ARTHROPODA:Pycnogonida	12
*Boreonymphon abyssorum**	
*Colossendeis proboscidea**	
Eurycyde hispida	
*Nymphon elegans**	
Nymphon hirtipes	
*Nymphon longitarse**	
*Nymphon macrum**	
*Nymphon mixtum?**	
*Nymphon serratum**	
*Nymphon stromi**	
*Pseudopallene brevicollis**	
Pseudopallene circularis	

Species	No.
ARTHROPODA:Tanaidacea	10
Cryptocope arctica	
Heterotanais oerstedi	
Leptognathia longiremis	
Paratanais batei	
Pseudotanais lilljeborgi	
Pseudotanais macrocheles	
Pseudotanais sp.	
Sphyrapus anomalus	
Typhlotanais aquiremis	
Typhlotanais finmarchicus	
ASCHELMINTHES:Nematoda	1
Nematode	
BRACHIOPODA	2
Atretia gnomon	
Hemithyris psittacea	
CHORDATA:Ascidiacea	17
Aplidium glabrum	
Ascidia callosa	
Boltenia echinata	
*Boltenia ovifera**	
Botrylloides aureum	
Chelyosoma sp.	
Ciona intestinalis	
Cnemidocarpa sp.	
Didemnum albidum	
Halocynthia pyriformis	
Kukenthalia borealis	
Molgula sp.	
Pelonaia corrugata	
Polycitor vitreus	
Styela coriacea	
Styela rustica	
Synoicum pulmonaria	
COELENTERATA:Anthozoa	5
*Drifa glomerata**	
Edwardsia sp.	
Gersemia rubiformis	
*Halcampa arctica**	
*Hormathia nodosa**	

Table 1. (cont'd.)

Species	No.
COELENTERATA:Hydrozoa	1
Hydrozoan	
ECHINODERMATA:Asteroidea	14
*Ctenodiscus crispatus**	
Henricia eschrichti	
Henricia scabrior	
Leptasterias groenlandica	
Leptasterias polaris	
*Lophaster furcifer**	
Poraniomorpha tumida	
*Pteraster militaris**	
*Pteraster obscurus**	
*Pteraster pulvillus**	
*Solaster endeca**	
Solaster papposus	
*Solaster syrtensis**	
Stephanasterias albula	
ECHINODERMATA:Crinoidea	1
Heliometra glacialis	
ECHINODERMATA:Echinoidea	1
Strongylocentrotus droebachiensis	
ECHINODERMATA:Holothuroidea	6
*Cucumaria calcigera**	
Myriotrochus rinki	
Psolus fabricii	
Psolus phantapus	
Thyonidium sp.	
Holothuroid	
ECHINODERMATA:Ophiuroidea	7
Amphiura sundevalli	
Ophiacantha bidentata	
*Ophiocten sericeum**	
Ophiopus arcticus	
Ophiura robusta	
*Ophiura sarsi**	
Stegophiura nodosa	
ECTOPROCTA	2
Alcyonidium gelatinosum	
Microporina articulata	
MOLLUSCA:Amphineura	2
Lophyrochiton albus	
Tonicella marmorea	
MOLLUSCA:Cephalopoda	3
*Bathypolypus arcticus**	
*Rossia molleri**	
*Rossia palpebrosa**	
Mollusca:Gastropoda	55
Acmaea rubella	
Admete couthouyi	
Alvania sp.	
*Aquilonaria turneri (shell)**	
Astyris rosacea	
Boreotrophon clathratus	
Boreotrophon fabricii	
*Boreotrophon truncatus**	
*Buccinum hydrophanum**	
*Buccinum tenue**	
Buccinum undatum	
Cadlina laevis	
*Capulacmaea radiata**	
Cingula arenaria	
Cingula moerchi	
*Colus islandicus**	
Colus pubescens	
Colus stimpsoni	
Colus tortuosus	
Cylichna alba	
Cylichna occulta	
Hydrobia minuta	
Lepeta caeca	
Lunatia pallida	
Margarites costalis	
Margarites groenlandicus	
Margarites olivaceus	
Margarites umbilicalis	
Margarites vahli	
*Marsenia glabra**	
Moelleria costulata	
*Natica clausa**	
*Neptunea despecta**	
Nudibranch*	
Oenopota arctica	
*Oenopota declivis**	

Table 1. (cont'd.)

Species	No.
MOLLUSCA:Gastropoda	
Oenopota incisula	
*Oenopota obliqua?***	
Oenopota turricula	
Onchidiopsis sp.*	
Philine finmarchia	
Puncturella noachina	
Retusa obtusa	
Scissurella crispata	
Tachyrhynchus reticulatus	
Taranis amoena	
Tectibranch*	
Trichotropis bicarinata	
Trichotropis borealis	
Trichotropis conica	
*Velutina plicatilis**	
Velutina undata	
Velutina velutina	
Velutina sp.*	
*Volutopsius norvegicus**	
MOLLUSCA:Pelecypoda	24
Astarte borealis	
*Astarte crenata**	
Astarte montagui	
*Axinopsida orbiculata***	
*Chlamys islandica**	
Clinocardium ciliatum	
Dacrydium vitreum	
Hiatella arctica	
Macoma calcarea	
Macoma moesta	
Macoma torelli	
*Musculus corrugatus**	
Musculus discors	
Musculus niger	
Mya truncata	
Nucula belloti	
Nuculana minuta	
Nuculana pernula	
Pandora glacialis	
Pecten groenlandicus	
Periploma abyssorum	
Serripes groenlandicus	
*Thracia myopsis?***	
Thyasira gouldi	
NEMERTINA	3
Nemertean	
Nemertean	
Nemertean	
PLATYHELMINTHES:Turbellaria	1
Turbellarian	
PORIFERA	7
*Mycale lingua**	
*Polymastia mammillaris**	
Polymastia sp.	
*Tetilla sibirica**	
Sponge	
Sponge	
Sponge	
PRIAPULIDA	1
Priapulus caudatus	
SIPUNCULIDA	2
Golfingia eremita	
Golfingia margaritacea	
TOTAL	448

* Collected by dredge or trawl.
** Collected from grab samples not included in this report.

Table 2. Coordinates of stations sampled by grab in the station 5 area of upper Frobisher Bay, 1967-1970.

Station	North Latitude	West Longitude
5a	63°40'	68°26.7'
5	63°40.2'	68°26.3'
5c	63°39'	68°25.9'
5d	63°40.4'	68°26.2'
5e	63°40.3'	68°26.2'
5f	63°39.8'	68°26.1'
5g	63°39.6'	68°25.7'

Table 3. Associated data for stations sampled by grab in upper Frobisher Bay, 1967-1970.

Station	Date	Time (AST)	Time (GMT)	No. of Grabs	Sampled Area (m^2)	Water Depth (m)	Temp. (°C)	Sal. (‰)
67-5a	10 Dec 67	1030	1430	6	0.39	37	-1.81	33.19
68-5a	13 Feb 68	1700	2100	5	0.33	30	-1.80	33.69
68-5a	30 Apr 68	1530	1930	6	0.39	26	-1.82	33.56
68-5a	1 Aug 68	1000	1400	6	0.39	26	-1.35	32.15
68-5a	20 Aug 68	1430	1830	6	0.39	32	-1.08	32.33
68-5	23 Jul 68	1700	2100	6	0.39	45	-1.62	32.49
68-5	20 Aug 68	1330	1730	6	0.39	60	-1.03	32.40
68-5	3 Sep 68	1415	1815	6	0.39	60	-0.51	32.51
68-5	8 Oct 68	1415	1815	6	0.39	62	-0.19	32.61
69-5	5 Jan 69	0130	0530	6	0.39	52	-1.81	33.10
69.5	14 Mar 69	1800	2200	6	0.39	53	-1.83	33.09
69-5	14 Jun 69	1645	2045	6	0.39	50	-1.75	33.11
70-5	23 May 70	1630	2030	6	0.39	57	-1.74	33.06
70-5	6 Aug 70	1300	1700	6	0.39	72	-0.64	32.38
69-5c	23 Aug 69	1330	1730	6	0.39	31	0.22	32.38
69-5d	23 Aug 69	1235	1635	6	0.39	43	0.22	32.38
69-5e	23 Aug 69	1055	1455	6	0.39	58	0.11	32.42
69-5f	23 Aug 69	1005	1405	6	0.39	73	0.11	32.42

Table 4. Number of species, density, and biomass of invertebrates collected by grab from stations in upper Frobisher Bay, 1967-1970.

Station	Date	Number of Species	Density (no. m^{-2})	Biomass (g m^{-2})
67-5a	10 Dec 67	151	6740	59.35
68-5a	13 Feb 68	80	2856	30.65
68-5a	30 Apr 68	110	3990	131.00
68-5a	1 Aug 68	123	6418	32.37
68-5a	20 Aug 68	172	11881	137.86
68-5	23 Jul 68	139	6633	35.37
68-5	20 Aug 68	135	7683	21.75
68-5	3 Sep 68	124	5123	39.59
68-5	8 Oct 68	129	13407	27.87
69-5	5 Jan 69	111	11115	12.32
69-5	14 Mar 69	132	25343	12.39
69-5	14 Jun 69	125	12855	12.73
70-5	23 May 70	138	9210	17.31
70-5	6 Aug 70	159	7703	25.82
69-5c	23 Aug 69	170	15994	78.28
69-5d	23 Aug 69	175	10833	73.78
69-5e	23 Aug 69	159	8970	33.90
69-5f	23 Aug 69	132	7343	21.78

Table 5. Densities of benthic invertebrates collected by grab from station 5a in upper Frobisher Bay, 1967-1968. Data expressed as number of individuals per square meter (no. m^{-2}).

Species	10 Dec	13 Feb	30 Apr	1 Aug	20 Aug
ANNELIDA:Polychaeta					
Ammotrypane breviata	7.5			7.5	
Ampharete arctica	2.5				2.5
Amphitrite cirrata			2.5	2.5	
Apistobranchus tullbergi			5.0	17.5	2.5
Aricidea jeffreysi	7.5	9.0	7.5	55.0	20.0
Aricidea suecica	40.0	39.0	30.0	57.5	55.0
Brada inhabilis					2.5
Branchiomma infarcta	10.0	3.0	15.0	2.5	22.5
Capitella capitata	10.0	3.0	5.0	57.5	32.5
Chaetozone setosa	137.5	54.0	112.5	105.0	157.5
Chaetozone sp.	17.5		10.0	12.5	67.5
Chitinopoma fabricii	22.5	3.0	12.5		22.5
Chone duneri	5.0		2.5	2.5	7.5
Chone sp. a	455.0	243.0	212.5	87.5	577.5
Chone sp. b	165.0		20.0	50.0	242.5
Cossura longocirrata	97.5	57.0	155.0	570.0	667.5
Diplocirrus glaucus	22.5	3.0	7.5	25.0	15.0
Enipo gracilis		9.0	5.0		
Ephesiella minuta	7.5				17.5
Eteone barbata	10.0		2.5	2.5	
Eteone flava	10.0	3.0	12.5	7.5	5.0
Eteone longa		3.0	2.5	7.5	
Eteone spetsbergensis	2.5				
Euchone analis	37.5		20.0	10.0	50.0
Euchone papillosa	30.0	3.0	5.0	40.0	15.0
Eumida sp. a	2.5			5.0	12.5
Eumida sp. b					2.5
Euphrosine borealis		3.0			10.0
Euphrosine cirrata	2.5	3.0	2.5		7.5
Eusyllis blomstrandi	2.5				2.5
Exogone dispar			2.5	45.0	7.5
Exogone naidina	5.0		5.0	37.5	57.5
Fabricia sabella	100.0			7.5	7.5
Flabelligera affinis	12.5			5.0	10.0
Gattyana cirrosa				10.0	2.5
Harmothoe extenuata	2.5	3.0	5.0	10.0	35.0
Harmothoe imbricata	7.5		2.5		12.5
Heteromastus sp.	22.5	15.0	15.0	50.0	70.0
Lanassa venusta	7.5	3.0	12.5	47.5	22.5
Laonome kroyeri	5.0			2.5	
Laphania boecki	7.5	3.0		2.5	2.5

Table 5. (cont'd.)

Species	10 Dec	13 Feb	30 Apr	1 Aug	20 Aug
ANNELIDA:Polychaeta					
Lumbrineris fragilis					2.5
Lumbrineris minuta	37.5	30.0	55.0	42.5	112.5
Lumbrineris tenuis	25.0				
Maldane sarsi	300.0	189.0	227.5	272.5	460.0
Micronephthys minuta				7.5	2.5
Myriochele heeri	87.5	42.0	62.5	47.5	22.5
Mystides borealis	12.5		7.5	7.5	10.0
Nephtys ciliata	2.5		2.5	5.0	
Nephtys paradoxa	5.0	9.0	15.0		7.5
Nereimyra aphroditoides				5.0	2.5
Nicolea zostericola	2.5				2.5
Nicomache lumbricalis	7.5	9.0	5.0	2.5	2.5
Paraonis gracilis	170.0	99.0	62.5	10.0	65.0
Paraonis sp. a			97.5	275.0	235.0
Petaloproctus tenuis	35.0		5.0	17.5	47.5
Pholoe minuta	217.5	27.0	122.5	357.5	575.0
Phyllodoce groenlandica	7.5	3.0	2.5	2.5	2.5
Pionosyllis compacta	22.5	6.0	22.5	82.5	137.5
Pionosyllis sp.					5.0
Pista maculata	195.0	72.0	72.5	57.5	152.5
Polycirrus medusa	37.5		7.5	42.5	135.0
Polydora caeca	60.0	6.0	37.5	15.0	80.0
Polydora caulleryi	20.0		5.0		2.5
Polydora quadrilobata			2.5	15.0	2.5
Praxillella affinis	17.5	27.0	42.5	152.5	152.5
Prionospio steenstrupi	10.0	3.0		12.5	5.0
Rhodine loveni				2.5	2.5
Sabella crassicornis	2.5				15.0
Sabellides borealis	2.5				
Sabellides octocirrata	140.0	9.0	32.5	180.0	122.5
Scalibregma inflatum	2.5	3.0	2.5	10.0	10.0
Scoloplos armiger	7.5	3.0	17.5	7.5	17.5
Sphaerodorum gracile	17.5	3.0	7.5		7.5
Sphaerosyllis erinaceus	17.5		2.5	37.5	107.5
Spio filicornis	7.5				10.0
Spirorbis sp.			2.5	5.0	
Stauronereis caecus		3.0	7.5	5.0	15.0
Syllis cornuta	50.0	30.0	27.5		45.0
Syllis fasciata	217.5	42.0	57.5	45.0	177.5
Terebellides stroemi	10.0	3.0	2.5	15.0	10.0
Tharyx acutus	55.0	33.0	72.5	117.5	157.5
Thelepus cincinnatus	67.5	21.0	30.0	10.0	85.0
Trichobranchus glacialis		3.0	10.0	10.0	10.0
Pieces of polychaetes				X	X

Table 5. (cont'd.)

Species	10 Dec	13 Feb	30 Apr	1 Aug	20 Aug
ARTHROPODA:Amphipoda					
Aceroides l. latipes				5.0	5.0
Amphithopsis longicaudata		3.0			2.5
Andaniella pectinata					22.5
Anonyx nugax	15.0		7.5		7.5
Arrhinopsis longicornis				15.0	2.5
Arrhinopsis sp.				5.0	12.5
Bathymedon obtusifrons	5.0				
Dulichia porrecta	2.5				
Gammaropsis maculata	5.0				
Gitanopsis inermis	5.0				12.5
Guernea nordenskioldi	5.0			5.0	10.0
Halirages megalops				2.5	12.5
Haploops laevis			10.0		
Ischyrocerus megalops					5.0
Metopa groenlandica	5.0		2.5		5.0
Metopella nasuta					2.5
Monoculodes latimanus	7.5			5.0	7.5
Monoculodes tuberculatus	10.0		2.5	7.5	37.5
Monoculodes sp. c				7.5	15.0
Odius carinatus			2.5		
Oediceros sp.	7.5	3.0			
Orchomene minuta	2.5				
Orchomene serrata	12.5	3.0			10.0
Pardalisca cuspidata	5.0				10.0
Phoxocephalus holbolli	2.5			5.0	20.0
Pontoporeia femorata				10.0	
Socarnes vahli					5.0
Syrrhoe crenulata	20.0			7.5	27.5
Syrrhoe sp.				5.0	25.0
Tryphosella schneideri	115.0		2.5	5.0	12.5
Westwoodilla brevicalar	17.5		7.5	32.5	67.5
Westwoodilla megalops	5.0		2.5	2.5	5.0
Amphipod					7.5
ARTHROPODA:Cirripedia					
Balanus balanus	5.0				
ARTHROPODA:Cumacea					
Brachydiastylis resima	7.5		2.5		7.5
Cumella sp.	140.0	18.0	15.0	100.0	250.0
Diastylis scorpioides	7.5		2.5		
Eudorella emarginata	2.5		2.5		20.0
Eudorella truncatula			5.0		7.5

Table 5. (cont'd.)

Species	10 Dec	13 Feb	30 Apr	1 Aug	20 Aug
ARTHROPODA: Cumacea					
Leptostylis ampullacea	5.0				10.0
Leucon acutirostris				5.0	52.5
Leucon nasica	2.5				
Leucon nasicoides	7.5	6.0		20.0	50.0
Leucon pallidus	2.5				
ARTHROPODA: Isopoda					
Arcturus baffini	2.5				
Desmosoma lineare	2.5			97.5	95.0
Eurycope pygmaea				2.5	2.5
Gnathia elongata					5.0
Gnathia maxillaris	2.5				10.0
Janiropsis sp.	17.5	6.0			50.0
Munna boecki					2.5
Munna fabricii	5.0			2.5	10.0
Munna kroyeri					5.0
Munna limicola					7.5
ARTHROPODA: Ostracoda					
Cythereis tuberculata					12.5
Cytheropteron punctatum					2.5
Hemicythere finmarchica					7.5
Hemicythere quadridentata					5.0
Hemicythere sp. a					12.5
Hemicythere sp. b					10.0
Philomedes globosus	1170.0	537.0	717.5	1205.0	2625.0
ARTHROPODA: Pycnogonida					
Eurycyde hispida	10.0		5.0		
Nymphon hirtipes	30.0				
Pseudopallene circularis		6.0	7.5		7.5
Pycnogonid	2.5		7.5		5.0
ARTHROPODA: Tanaidacea					
Cryptocope arctica				22.5	55.0
Heterotanais oerstedi				12.5	
Leptognathia longiremis				17.5	
Pseudotanais lilljeborgi				15.0	2.5
ASCHELMINTHES: Nematoda					
Nematode	967.5	705.0	907.5	932.5	1895.0
BRACHIOPODA					
Atretia gnomon	5.0				
Hemithyris psittacea	65.0	21.0	15.0	7.5	32.5

Table 5. (cont'd.)

Species	10 Dec	13 Feb	30 Apr	1 Aug	20 Aug
CHORDATA:Ascidiacea					
Ascidia callosa	72.5		10.0	7.5	12.5
Boltenia echinata	2.5				
Chelyosoma sp.	2.5				
Ciona intestinalis	2.5				
Didemnum albidum	2.5				5.0
Halocynthia pyriformis	2.5				
Kukenthalia borealis	7.5				
Pelonaia corrugata					10.0
Styela coriacea	2.5				
Ascidian	2.5	45.0	5.0		27.5
COELENTERATA:Anthozoa					
Anemone		3.0	5.0		2.5
ECHINODERMATA:Asteroidea					
Henricia eschrichti			2.5		
Henricia scabrior				5.0	
Solaster papposus				7.5	2.5
Stephanasterias albula	2.5			12.5	37.5
ECHINODERMATA:Echinoidea					
Strongylocentrotus droebachiensis			2.5	5.0	
ECHINODERMATA:Holothuroidea					
Psolus fabricii	2.5		2.5		2.0*
Thyo idium sp.					2.5
Holothuroid	5.0		7.5	2.5	2.5
Holothuroid			2.5		
ECHINODERMATA:Ophiuroidea					
Amphiura sundevalli	5.0	6.0	2.5	15.0	12.5
Ophiacantha bidentata	22.5	3.0	15.0	10.0	5.0
Ophiopus arcticus	142.5	111.0	70.0	57.5	160.0
Stegophiura nodosa	10.0		5.0	10.0	5.0
ECTOPROCTA					
Microporina articulata	2.5				
MOLLUSCA:Amphineura					
Lophyrochiton albus		6.0		7.5	
Tonicella marmorea					2.5
MOLLUSCA:Gastropoda					
Acmaea rubella	27.5		2.5		22.5

Table 5. (cont'd.)

Species	10 Dec	13 Feb	30 Apr	1 Aug	20 Aug
MOLLUSCA:Gastropoda					
Astyris rosacea	5.0				
Buccinum undatum					2.5
Cingula arenaria					2.5
Colus tortuosus	5.0				
Cylichna alba	15.0	6.0	7.5	5.0	5.0
Lepeta caeca	17.5	18.0	17.5	5.0	
Lunatia pallida					5.0
Margarites olivaceus	12.5		12.5	40.0	10.0
Margarites umbilicalis	42.5	12.0	35.0	5.0	15.0
Margarites vahli	12.5				20.0
Moelleria costulata					2.5
Oenopota turricula	5.0				
Philine finmarchia	2.5				
Puncturella noachina	7.5	6.0		7.5	37.5
Retusa obtusa	5.0				2.5
Scissurella crispata	32.5	3.0	2.5		32.5
Tachyrhynchus reticulatus	7.5			5.0	5.0
Trichotropis bicarinata					2.5
Trichotropis conica	5.0	6.0	5.0		5.0
Velutina velutina	10.0	3.0	2.5	2.5	2.5
Gastropod				15.0	5.0
MOLLUSCA:Pelecypoda					
Astarte borealis		6.0	5.0	7.5	5.0
Astarte montagui	17.5	15.0	12.5	15.0	15.0
Dacrydium vitreum	15.0	3.0	12.5		
Hiatella arctica	30.0	18.0	15.0		35.0
Macoma calcarea		9.0		5.0	
Musculus discors	27.5	12.0	10.0	20.0	37.5
Musculus niger				2.5	
Mya truncata	10.0	18.0	30.0	7.5	15.0
Nucula belloti	10.0	27.0	12.5	107.5	37.5
Nuculana minuta	60.0	6.0	22.5	25.0	20.0
Pandora glacialis	2.5				
Thyasira gouldi	52.5	27.0	52.5	95.0	95.0
NEMERTINA					
Nemertean	52.5	18.0	17.5	67.5	100.0
PLATYHEMINTHES:Turbellaria					
Turbellarian				5.0	20.0
PORIFERA					
Sponge	32.5	9.0	40.0	27.5	125.0

Table 5. (cont'd.)

Species	10 Dec	13 Feb	30 Apr	1 Aug	20 Aug
PRIAPULIDA					
Priapulus caudatus	15.0	3.0		5.0	2.5
SIPUNCULIDA					
Golfingia eremita	5.0				
Golfingia margaritacea	55.0	12.0	2.5	25.0	32.5
TOTAL	6740.0	2856.0	3990.0	6417.5	11880.5

*Sample value used for density because of disproportionate representation.

Table 6. Biomass of benthic invertebrates collected by grab from station 5a in upper Frobisher Bay, 1967-1968. Data expressed as grams per square meter ($g\ m^{-2}$).

Species	10 Dec	13 Feb	30 Apr	1 Aug	20 Aug
ANNELIDA:Polychaeta					
Ammotrypane breviata	0.0010			0.0008	
Ampharete arctica	0.0038				0.0035
Amphitrite cirrata			0.0735	0.0025	
Apistobranchus tullbergi			0.0005	0.0005	0.0005
Aricidea jeffreysi	0.0003	0.0006	0.0003	0.0025	0.0010
Aricidea suecica	0.0050	0.0129	0.0053	0.0053	0.0058
Brada inhabilis					0.0318
Branchiomma infarcta	0.8665	0.3120	0.8880	0.7335	1.6653
Capitella capitata	0.0013	0.0006	0.0015	0.0028	0.0050
Chaetozone setosa	0.0260	0.0471	0.0720	0.0833	0.0925
Chaetozone sp.	0.0073		0.0065	0.0063	0.0118
Chitinopoma fabricii	0.0045	0.0006	0.0013		0.0043
Chone duneri	0.0050		0.0038	0.0038	0.0140
Chone sp. a	0.2275	0.2340	0.1150	0.0220	0.2528
Chone sp. b	0.0330		0.0108	0.0050	0.0613
Cossura longocirrata	0.0015	0.0012	0.0035	0.0133	0.0138
Diplocirrus glaucus	0.0128	0.0018	0.0043	0.0228	0.0158
Enipo gracilis		0.3852	0.1040		
Ephesiella minuta	0.0028				0.0065
Eteone barbata	0.0103		0.0028	0.0038	
Eteone flava	0.0050	0.0042	0.0200	0.0048	0.0038
Eteone longa		0.0006	0.0013	0.0020	
Eteone spetsbergensis	0.0010				
Euchone analis	0.0315		0.0418	0.0058	0.0533
Euchone papillosa	0.0093	0.0030	0.0045	0.0020	0.0125
Eumida sp. a	0.0005			0.0005	0.0023
Eumida sp. b					0.0003
Euphrosine borealis		0.0033			0.0675
Euphrosine cirrata	0.0005	0.0006	0.0005		0.0005
Eusyllis blomstrandi	0.0008				0.0010
Exogone dispar			0.0001	0.0015	0.0003
Exogone naidina	0.0003		0.0003	0.0010	0.0013
Fabricia sabella	0.0030			0.0008	0.0005
Flabelligera affinis	0.2185			0.0125	0.0930
Gattyana cirrosa				0.0035	0.0050
Harmothoe extenuata	0.0020	0.0291	0.0020	0.0105	0.0520
Harmothoe imbricata	0.0163		0.0033		0.0110
Heteromastus sp.	0.0040	0.0033	0.0013	0.0085	0.0125
Lanassa venusta	0.0103	0.0042	0.0143	0.0330	0.0960
Laonome kroyeri	0.0018			0.0008	
Laphania boecki	0.0048	0.0021		0.0005	0.0030

Table 6. (cont'd.)

Species	10 Dec	13 Feb	30 Apr	1 Aug	20 Aug
ANNELIDA:Polychaeta					
Lumbrineris fragilis					0.8045
Lumbrineris minuta	0.0400	0.0588	0.0915	0.0823	0.1558
Lumbrineris tenuis	0.0033				
Maldane sarsi	0.2068	0.2259	0.2080	0.2125	0.4023
Micronephthys minuta				0.0013	0.0005
Myriochele heeri	0.0645	0.0627	0.1160	0.0503	0.0388
Mystides borealis	0.0025		0.0010	0.0010	0.0018
Nephtys ciliata	0.1005		0.0915	0.7920	
Nephtys paradoxa	0.3848	0.5388	5.5353		2.8270
Nereimyra aphroditoides				0.0005	0.0018
Nicolea zostericola	0.0023				0.0013
Nicomache lumbricalis	0.5913	1.6803	1.3905	0.3835	0.2805
Paraonis gracilis	0.0073	0.0111	0.0075	0.0010	0.0075
Paraonis sp. a			0.0048	0.0103	0.0088
Petaloproctus tenuis	0.0103		0.0043	0.0098	0.0323
Pholoe minuta	0.0265	0.0057	0.0285	0.0528	0.0840
Phyllodoce groenlandica	0.2113	0.0015	0.0045	0.0395	0.0308
Pionosyllis compacta	0.0035	0.0015	0.0038	0.0148	0.0145
Pionosyllis sp.					0.0005
Pista maculata	7.3215	2.5941	1.7568	1.9010	6.7703
Polycirrus medusa	0.0318		0.0083	0.0610	0.1858
Polydora caeca	0.0375	0.0042	0.0268	0.0028	0.0403
Polydora caulleryi	0.0013		0.0005		0.0003
Polydora quadrilobata			0.0010	0.0060	0.0010
Praxillella affinis	0.0143	0.0186	0.0173	0.1075	0.0810
Prionospio steenstrupi	0.0025	0.0009		0.0025	0.0010
Rhodine loveni				0.0018	0.0018
Sabella crassicornis	0.0083				0.0850
Sabellides borealis	0.0045				
Sabellides octocirrata	0.0113	0.0021	0.0060	0.0258	0.0370
Scalibregma inflatum	0.0003	0.0012	0.0005	0.0005	0.0018
Scoloplos armiger	0.0068	0.0027	0.0085	0.0133	0.0178
Sphaerodorum gracile	0.0065	0.0102	0.0028		0.0010
Sphaerosyllis erinaceus	0.0005		0.0001	0.0005	0.0013
Spio filicornis	0.0005				0.0008
Spirorbis sp.			0.0008	0.0013	
Stauronereis caecus		0.0003	0.0008	0.0010	0.0013
Syllis cornuta	0.0208	0.0105	0.0108		0.0403
Syllis fasciata	0.2135	0.1266	0.1233	0.0475	0.2418
Terebellides stroemi	0.0010	0.0168	0.0040	0.0275	0.0040
Tharyx acutus	0.0213	0.0270	0.0243	0.0135	0.0410
Thelepus cincinnatus	3.5278	1.4511	2.3890	1.2725	6.7180
Trichobranchus glacialis		0.0048	0.0135	0.0178	0.0138
Pieces of polychaetes				0.0638	0.1350

Table 6. (cont'd.)

Species	10 Dec	13 Feb	30 Apr	1 Aug	20 Aug
ARTHROPODA:Amphipoda					
Aceroides l. latipes				0.0053	0.0020
Amphithopsis longicaudata		0.0006			0.0005
Andaniella pectinata					0.0013
Anonyx nugax	0.2050		0.4453		0.0310
Arrhinopsis longicornis				0.0025	0.0003
Arrhinopsis sp.				0.0008	0.0013
Bathymedon obtusifrons	0.0005				
Dulichia porrecta	0.0003				
Gammaropsis maculata	0.0023				
Gitanopsis inermis	0.0005				0.0005
Guernea nordenskioldi	0.0003			0.0008	0.0005
Halirages megalops				0.0001	0.0005
Haploops laevis			0.0235		
Ischyrocerus megalops					0.0001
Metopa groenlandica	0.0013		0.0005		0.0008
Metopella nasuta					0.0001
Monoculodes latimanus	0.0038			0.0018	0.0038
Monoculodes tuberculatus	0.0043		0.0008	0.0020	0.0088
Monoculodes sp. c				0.0015	0.0033
Odius carinatus			0.0008		
Oediceros sp.	0.0020	0.0021			
Orchomene minuta	0.0003				
Orchomene serrata	0.0100	0.0042			0.0025
Pardalisca cuspidata	0.0013				0.0030
Phoxocephalus holbolli	0.0005			0.0008	0.0060
Pontoporeia femorata				0.0093	
Socarnes vahli					0.0008
Syrrhoe crenulata	0.0133			0.0048	0.0130
Syrrhoe sp.				0.0001	0.0008
Tryphosella schneideri	0.0400		0.0008	0.0010	0.0010
Westwoodilla brevicalar	0.0028		0.0008	0.0013	0.0048
Westwoodilla megalops	0.0010		0.0005	0.0001	0.0003
Amphipod					0.0001
ARTHROPODA:Cirripedia					
Balanus balanus	0.0318				
ARTHROPODA:Cumacea					
Brachydiastylis resima	0.0008		0.0005		0.0008
Cumella sp.	0.0450	0.0039	0.0033	0.0135	0.0598
Diastylis scorpioides	0.0025		0.0028		
Eudorella emarginata	0.0005		0.0013		0.0010
Eudorella truncatula			0.0010		0.0028

Table 6. (cont'd.)

Species	10 Dec	13 Feb	30 Apr	1 Aug	20 Aug
ARTHROPODA:Cumacea					
Leptostylis ampullacea	0.0023				0.0013
Leucon acutirostris				0.0003	0.0020
Leucon nasica	0.0003				
Leucon nasicoides	0.0008	0.0009		0.0018	0.0040
Leucon pallidus	0.0003				
ARTHROPODA:Isopoda					
Arcturus baffini	0.0118				
Desmosoma lineare	0.0003			0.0023	0.0023
Eurycope pygmaea				0.0001	0.0001
Gnathia elongata					0.0013
Gnathia maxillaris	0.0003				0.0013
Janiropsis sp.	0.0088	0.0075			0.0165
Munna boecki					0.0001
Munna fabricii	0.0003			0.0003	0.0005
Munna kroyeri					0.0003
Munna limicola					0.0004
ARTHROPODA:Ostracoda					
Cythereis tuberculata					0.0008
Cytheropteron punctatum					0.0001
Hemicythere finmarchica					0.0003
Hemicythere quadridentata					0.0003
Hemicythere sp. a					0.0008
Hemicythere sp. b					0.0005
Philomedes globosus	0.3410	0.1110	0.1715	0.2225	0.2925
ARTHROPODA:Pyconogonida					
Eurycyde hispida	0.0113		0.0055		
Nymphon hirtipes	0.2500				
Pseudopallene circularis		0.0027	0.0035		0.0035
Pycnogonid	0.0023		0.0068		0.0003
ARTHROPODA:Tanaidacea					
Cryptocope arctica				0.0010	0.0035
Heterotanais oerstedi				0.0005	
Leptognathia longiremis				0.0005	
Pseudotanais lilljeborgi				0.0003	0.0001
ASCHELMINTHES:Nematoda					
Nematode	0.0500	0.0192	0.0350	0.0328	0.0523
BRACHIOPODA					
Atretia gnomon	0.0015				
Hemithyris psittacea	0.0968	0.0663	0.0068	0.0025	0.0548

Table 6. (cont'd.)

Species	10 Dec	13 Feb	30 Apr	1 Aug	20 Aug
CHORDATA:Ascidiacea					
Ascidia callosa	4.0380		0.4658	0.1768	1.9435
Boltenia echinata	0.0260				
Chelyosoma sp.	0.0040				
Ciona intestinalis	0.1510				
Didemnum albidum	0.7595				0.0495
Halocynthia pyriformis	0.0573				
Kukenthalia borealis	0.0445				
Pelonaia corrugata					0.1270
Styela coriacea	0.0718				
Ascidian	0.0308	0.2337	0.0783		0.1495
COELENTERATA:Anthozoa					
Anemone		0.0057	0.0098		0.0200
ECHINODERMATA:Asteroidea					
Henricia eschrichti			0.1828		
Henricia scabrior				0.0573	
Solaster papposus				0.0063	0.0628
Stephanasterias albula	0.0083			0.1210	0.1725
ECHINODERMATA:Echinoidea					
Strongylocentrotus droebachiensis			0.0013	9.8293	
ECHINODERMATA:Holothuroidea					
Psolus fabricii	0.0200		0.0003		14.8300*
Thyonidium					0.2628
Holothuroid	0.0083		0.0105	0.0036	0.0023
Holothuroid			2.2580		
ECHINODERMATA:Ophiuroidea					
Amphiura sundevalli	0.2525	0.2685	0.0520	0.3625	0.3818
Ophiacantha bidentata	2.5468	0.3246	2.8710	1.6868	0.5410
Ophiopus arcticus	2.0633	0.7338	0.8918	1.7965	2.5435
Stegophiura nodosa	0.0283		0.0365	0.1085	0.0473
ECTOPROCTA					
Microporina articulata	0.0180				
MOLLUSCA:Amphineura					
Lophyrochiton albus		0.0021		0.0030	
Tonicella marmorea					0.0670
MOLLUSCA:Gastropoda					
Acmaea rubella	0.0095		0.0025		0.0410

Table 6. (cont'd.)

Species	10 Dec	13 Feb	30 Apr	1 Aug	20 Aug
MOLLUSCA:Gastropoda					
Astyris rosacea	0.0095				
Buccinum undatum					7.3178
Cingula arenaria					0.0025
Colus tortuosus	0.00040				
Cylichna alba	0.0540	0.0522	0.0385	0.0123	0.0153
Lepeta caeca	0.1338	0.0825	0.1020	0.0038	
Lunatia pallida					0.0053
Margarites olivaceus	0.0540		0.0588	0.0425	0.0440
Margarites umbilicalis	0.2430	0.0852	0.2485	0.1750	0.0258
Margarites vahli	0.0083				0.0043
Moelleria costulata					0.0025
Oenopota turricula	0.0095				
Philine finmarchia	0.0013				
Puncturella noachina	0.0023	0.0018		0.0038	0.0060
Retusa obtusa	0.0015				0.0010
Scissurella crispata	0.0065	0.0006	0.0003		0.0030
Tachyrhynchus reticulatus	0.0488			0.0293	0.0075
Trichotropis bicarinata					0.0010
Trichotropis conica	0.0043	0.0006	0.0033		0.0028
Velutina velutina	0.0468	0.0015	0.0015	0.0003	0.0005
Gastropod				0.0028	0.0013
MOLLUSCA:Pelecypoda					
Astarte borealis		1.6323	2.3673	2.2853	1.8515
Astarte montagui	0.8505	0.5838	0.8890	0.6730	1.3400
Dacrydium vitreum	0.0018	0.0015	0.0028		
Hiatella arctica	12.3250	8.2800	3.0025		19.2250
Macoma calcarea		1.6263		0.0723	
Musculus discors	1.0775	0.4323	0.7275	1.7300	1.0630
Musculus niger				0.2593	
Mya truncata	17.6750	7.8600	100.0000	6.1250	62.5000
Nucula belloti	0.0033	0.1668	0.0125	0.0163	0.0295
Nuculana minuta	0.0943	0.0237	0.0428	0.0488	0.0520
Pandora glacialis	0.0648				
Thyasira gouldi	0.0135	0.0054	0.0165	0.0288	0.0270
NEMERTINA					
Nemertean	0.4700	0.0144	0.0165	0.0393	0.0940
PLATYHELMINTHES:Turbellaria					
Turbellarian				0.0010	0.0420
PORIFERA					
Sponge	0.2375	0.0954	2.6350	0.0983	0.6008

Table 6. (cont'd.)

Species	10 Dec	13 Feb	30 Apr	1 Aug	20 Aug
PRIAPULIDA					
Priapulus caudatus	0.0053	0.0003		0.0005	0.0003
SIPUNCULIDA					
Golfingia eremita	0.0985				
Golfingia margaritacea	0.1045	0.0150	0.0005	0.0465	0.0430
TOTAL	59.3493	30.6522	131.0022	32.3714	137.8572

*Sample value used for biomass because of disproportionate representation.

Table 7. Densities of benthic invertebrates collected by grab from station 5 in upper Frobisher Bay, 1968-1970. Data expressed as number of individuals per square meter (no. m^{-2}).

Species	1968				1969			1970	
	23 Jul	20 Aug	3 Sep	8 Oct	5 Jan	14 Mar	14 Jun	23 May	6 Aug
ANNELIDA:Polychaeta									
Ammotrypane breviata	2.5	2.5			2.5	25.0	15.0	17.5	2.5
Ampharete acutifrons							2.5		
Amphitrite groenlandica						2.5		2.5	2.5
Antinoella badia		2.5							
Apistobranchus tullbergi	7.5	27.5		22.5	57.5	100.0	17.5	102.5	85.0
Aricidea jeffreysi	7.5	7.5		30.0	27.5	160.0	20.0	7.5	10.0
Aricidea suecica	102.5	140.0	70.0	62.5	97.5	325.0	187.5	242.5	227.5
Brada villosa		2.5							
Branchiomma infarcta	12.5	10.0	5.0	2.5		5.0	2.5		
Chaetozone setosa	62.5	327.5	20.0	92.5	170.0	152.5	212.5	310.0	120.0
Chaetozone sp.	7.5	47.5	12.5	60.0	17.5	25.0	22.5	37.5	170.0
Chitinopoma fabricii	35.0		17.5	25.0		15.0	10.0		35.0
Chone duneri	2.5	27.5		15.0	7.5	20.0	5.0	10.0	12.5
Chone infundibuliformis	2.5					12.5	2.5	5.0	10.0
Chone sp. a	230.0	60.0	75.0	72.5	17.5	32.5	17.5		212.5
Chone sp. b	35.0	310.0	2.5	72.5	355.0	247.5	137.5	210.0	182.5
Cossura longocirrata	537.5	295.0	50.0	527.5	537.5	1762.5	742.5	702.5	397.5
Diplocirrus glaucus	10.0	42.5	7.5	7.5	42.5	22.5	10.0	15.0	12.5
Enipo gracilis	2.5	5.0	7.5	5.0	5.0		17.5	17.5	15.0
Ephesiella minuta		2.5	2.5			5.0		5.0	
Eteone barbata						10.0			
Eteone flava	2.5	5.0			10.0	10.0	5.0	12.5	5.0
Eteone longa								7.5	5.0
Euchone analis	17.5	35.0	2.5	7.5	12.5		5.0	10.0	5.0
Euchone papillosa	40.0	175.0	10.0	20.0	235.0	225.0	252.5	225.0	290.0
Eumida sp. a		2.5				2.5			10.0
Eumida sp. b						2.5			2.5
Euphrosine borealis									5.0
Euphrosine cirrata			2.5	2.5					
Eusyllis blomstrandi							2.5		2.5
Exogone dispar	2.5			2.5	7.5	25.0	15.0	2.5	7.5

Table 7. (cont'd.)

Species	1968				1969			1970	
	23 Jul	20 Aug	3 Sep	8 Oct	5 Jan	14 Mar	14 Jun	23 May	6 Aug
ANNELIDA:Polychaeta									
Exogone naidina	5.0	22.5		15.0	42.5	125.0	17.5	30.0	22.5
Fabricia sabella	122.5	55.0	37.5	25.0	1577.5	625.0	300.0	1250.0	520.0
Flabelligera affinis		2.5							5.0
Gattyana cirrosa		2.5		2.5		2.5		5.0	
Harmothoe extenuata	5.0			7.5			2.5		12.5
Harmothoe imbricata		2.5			2.5	5.0	5.0	2.5	
Hesionid					2.5				
Heteromastus sp.	7.5	10.0		2.5	2.5	2.5	5.0	25.0	7.5
Lanassa venusta	17.5	12.5		2.5	2.5	10.0	2.5		12.5
Laonome kroyeri	10.0	7.5	2.5		20.0	7.5	15.0	62.5	15.0
Laphania boecki	7.5	55.0		17.5	27.5	37.5	30.0	97.5	55.0
Leaena abranchiata	2.5						2.5		
Leiochone polaris		2.5				2.5			
Lumbriclymene minor	2.5				5.0		2.5	7.5	17.5
Lumbrineris fragilis								2.5	
Lumbrineris minuta	60.0	127.5	100.0	85.0	122.5	125.0	60.0	110.0	135.0
Lumbrineris tenuis	17.5								
Maldane sarsi	342.5	437.5	337.5	160.0	375.0	370.0	282.5	392.5	407.5
Melinna cristata	2.5		2.5	2.5		2.5			
Micronephthys minuta	5.0	25.0	75.0	7.5	30.0	70.0	45.0	155.0	147.5
Microspio sp.									5.0
Myriochele heeri	112.5	220.0	280.0	62.5	275.0	260.0	147.5	345.0	107.5
Mystides borealis	5.0	2.5		2.5			5.0	5.0	
Nephtys ciliata	10.0	2.5	22.5	5.0	5.0	12.5	12.5	10.0	12.5
Nephtys paradoxa	7.5	10.0	5.0	7.5	10.0	2.5	5.0	2.5	2.5
Nereimyra aphroditoides						2.5			
Nicomache lumbricalis	25.0	22.5	12.5	7.5	10.0	5.0	17.5	17.5	22.5
Nicomache quadrispinata	7.5	10.0	2.5				2.5		
Owenia fusiformis								50.0	
Paraonis gracilis	472.5	485.0	130.0	177.5	172.5	310.0	162.5	145.0	127.5
Paraonis sp. a		20.0						5.0	2.5
Paraonis sp. b								2.5	5.0

Table 7. (cont'd.)

Species	1968				1969			1970	
	23 Jul	20 Aug	3 Sep	8 Oct	5 Jan	14 Mar	14 Jun	23 May	6 Aug
ANNELIDA:Polychaeta									
Petaloproctus tenuis		2.5	10.0	2.5	5.0	5.0		2.5	35.0
Pherusa plumosa		2.5		2.5					
Pholoe minuta	252.5	252.5	195.0	142.5	90.0	142.5	112.5	132.5	147.5
Phyllodoce groenlandica	2.5	5.0		2.5		7.5			7.5
Pionosyllis compacta	7.5	17.5	7.5	7.5		2.5	10.0		12.5
Pista flexuosa	2.5		7.5	2.5				2.5	
Pista maculata	157.5	30.0	12.5	35.0		7.5	7.5	5.0	20.0
Polycirrus medusa	12.5	45.0	2.5	17.5	17.5	15.0	5.0		12.5
Polydora caeca	10.0	62.5	35.0	52.5	17.5	17.5	12.5	15.0	80.0
Polydora caulleryi	5.0	15.0	5.0	35.0	5.0	5.0	2.5	15.0	10.0
Polydora quadrilobata			5.0						
Potamilla neglecta									7.5
Praxillella affinis	30.0	87.5	15.0	20.0	55.0	32.5	27.5	105.0	72.5
Praxillella gracilis		2.5					2.5		
Praxillella praetermissa								2.5	7.5
Prionospio steenstrupi	2.5	97.5		7.5	37.5	100.0	70.0	65.0	77.5
Proclea graffi					2.5				
Pygospio elegans							2.5		
Sabella crassicornis	2.5								
Sabellides borealis	2.5		2.5		2.5				2.5
Sabellides octocirrata	35.0	37.5		5.0	45.0	145.0	67.5	22.5	17.5
Scalibregma inflatum	10.0	7.5					2.5	2.5	2.5
Scoloplos armiger	22.5	92.5		2.5	15.0	22.5	5.0	7.5	40.0
Sphaerodorum gracile	7.5	2.5	10.0	10.0		10.0			17.5
Sphaerosyllis erinaceus	2.5	7.5		22.5	2.5	42.5	42.5		15.0
Spio filicornis	2.5	17.5	2.5	2.5	5.0	2.5			2.5
Spirorbis sp.	15.0		2.5	10.0		5.0	5.0		27.5
Spirorbis sp.									2.5
Spirorbis sp.									2.5
Stauronereis caecus	2.5	5.0			2.5	17.5	5.0		5.0
Syllis cornuta	35.0	30.0	27.5	15.0	10.0	7.5	7.5	30.0	57.5
Syllis fasciata	137.5	32.5	22.5	57.5	2.5	27.5	52.5	5.0	35.0
Terebellides stroemi	45.0	65.0	7.5	37.5	112.5	110.0	67.5	95.0	57.5

Table 7. (cont'd.)

Species	1968				1969			1970	
	23 Jul	20 Aug	3 Sep	8 Oct	5 Jan	14 Mar	14 Jun	23 May	6 Aug
ANNELIDA:Polychaeta									
Tharyx acutus	150.0	335.0	12.5	132.5	185.0	367.5	220.0	212.5	625.0
Thelepus cincinnatus	7.5						2.5		
Trichobranchus glacialis	2.5	5.0			2.5				
Pieces of polychaetes	X		X	X	X	X	X	X	X
ARTHROPODA:Amphipoda									
Acanthonotozoma serratum	2.5	2.5							2.5
Aceroides l. latipes			2.5		5.0		10.0		
Aeginina longicornis									2.5
Ampelisca eschrichti	2.5			2.5		2.5	2.5		5.0
Ampelisca macrocephala						2.5			
Amphithopsis longicaudata	2.5								
Andaniella pectinata	5.0	7.5		2.5		2.5	5.0	5.0	
Anonyx debruyni	2.5		42.5						
Anonyx lilljeborgi				2.5					
Anonyx nugax						5.0		7.5	
Anonyx sp.	2.5								
Argissa hamatipes		5.0							
Arrhinopsis longicornis	5.0		2.5						
Arrhinopsis sp.									2.5
Bathymedon obtusifrons	5.0	25.0	5.0	7.5	17.5	17.5	7.5	22.5	7.5
Boeckosimus edwardsi		10.0		2.5		2.5			
Byblis gaimardi			5.0		2.5				2.5
Caprella dubia				302.5		2.5			7.5
Caprella septentrionalis				2.5					
Dulichia porrecta				5.0	5.0	17.5	2.5	10.0	2.5
Eriothonius tolli		25.0	2.5	50.0					
Gammaropsis maculata			5.0				5.0	2.5	7.5
Gitanopsis inermis		2.5							
Guernea nordenskioldi		2.5	2.5	2.5	5.0	30.0	2.5	10.0	
Haploops tubicola	37.5	2.5	2.5				12.5		
Harpinia serrata	10.0	57.5	45.0	2.5	7.5	42.5	42.5	10.0	40.0

Table 7. (cont'd.)

Species	1968				1969			1970	
	23 Jul	20 Aug	3 Sep	8 Oct	5 Jan	14 Mar	14 Jun	23 May	6 Aug
ARTHROPODA: Amphipoda									
Hippomedon propinquus	2.5					5.0		2.5	
Ischyrocerus anguipes								5.0	20.0
Ischyrocerus latipes				40.0					
Ischyrocerus megalops	2.5	12.5	5.0	5.0	5.0	25.0	2.5		7.5
Ischyrocerus nanoides		5.0					2.5		
Lembos sp.						2.5		2.5	
Melita dentata	2.5							2.5	
Melita quadrispinosa	10.0								
Melita sp.					10.0				2.5
Metopa boecki									7.5
Metopa bruzelii					2.5				45.0
Metopa cariana	5.0	2.5	25.0	7.5	2.5				
Metopa groenlandica								22.5	10.0
Metopa robusta									5.0
Metopa sp.					5.0		2.5		7.5
Metopella nasuta		2.5	10.0	2.5	7.5	20.0	10.0	12.5	2.5
Monoculodes latimanus	2.5								
Monoculodes tuberculatus			2.5						5.0
Monoculodes sp. c		10.0	2.5					5.0	
Odius carinatus	2.5			2.5					
Oediceros borealis	5.0	2.5			2.5	5.0			
Orchomene groenlandica			2.5						
Orchomene macroserrata							2.5		
Orchomene minuta			10.0			2.5			
Orchomene serrata	5.0	5.0	7.5						47.5
Paradulichia typica			5.0		12.5	22.5	5.0	2.5	22.5
Pardalisca tenuipes	2.5								
Photis tenuicornis							2.5		
Phoxocephalus holbolli	2.5	12.5	12.5	2.5	5.0	7.5	2.5	12.5	10.0
Pleustes media					2.5				
Pleustes panopla									2.5

Table 7. (cont'd.)

Species	1968				1969			1970	
	23 Jul	20 Aug	3 Sep	8 Oct	5 Jan	14 Mar	14 Jun	23 May	6 Aug
ARTHROPODA:Amphipoda									
Pleusymtes sp.									2.5
Protomedeia fasciata		2.5			15.0	10.0		10.0	2.5
Socarnes vahli				2.5					
Stenopleustes pulchella			5.0					7.5	
Syrrhoe crenulata	2.5								
Syrrhoe sp.		7.5							2.5
Tiron spiniferum		5.0						7.5	
Tryphosella schneideri		7.5		2.5			2.5		5.0
Unciola leucopis	15.0	30.0		5.0				2.5	20.0
Westwoodilla brevicalar		2.5			7.5	15.0		5.0	2.5
Westwoodilla megalops	5.0	42.5		7.5	10.0	15.0		25.0	17.5
Amphipods			47.5	35.0		22.5	10.0		
ARTHROPODA:Cirripedia									
Balanus balanus	5.0	60.0		5.0		5.0	17.5	2.5	7.5
Balanus crenatus			20.0	57.5					10.0
ARTHROPODA:Cumacea									
Brachydiastylis resima	5.0	27.5	5.0	5.0	25.0	22.5	17.5	10.0	2.5
Cumella sp.	57.5	67.5	32.5	35.0	2.5	42.5	7.5	17.5	10.0
Diastylis goodsiri			2.5					2.5	
Diastylis lepechini	2.5								
Diastylis lucifera			2.5						
Diastylis scorpioides	2.5		5.0	5.0		2.5	5.0	2.5	
Eudorella emarginata	17.5	17.5	17.5	12.5	7.5	20.0	5.0	17.5	10.0
Eudorella truncatula		2.5	2.5		10.0	2.5	2.5	2.5	2.5
Eudorellopsis deformis			5.0						
Lamprops fuscata		5.0	2.5		2.5	2.5	2.5	5.0	
Leptostylis ampullacea		17.5	2.5	32.5					2.5
Leptostylis longimana			5.0					2.5	
Leptostylis villosa			2.5						
Leucon acutirostris	25.0	52.5	52.5	42.5	30.0	60.0	40.0	65.0	22.5

Table 7. (cont'd.)

Species	1968				1969			1970	
	23 Jul	20 Aug	3 Sep	8 Oct	5 Jan	14 Mar	14 Jun	23 May	6 Aug
ARTHROPODA:Cumacea									
Leucon fulvus									2.5
Leucon nasica	30.0	10.0	5.0	2.5	2.5	5.0	2.5	10.0	
Leucon nasicoides		12.5	2.5			12.5			7.5
ARTHROPODA:Decapoda									
Spirontocaris spinus									2.5
ARTHROPODA:Isopoda									
Desmosoma lineare	57.5	30.0	40.0	32.5	107.5	682.5	372.5	195.0	45.0
Eugerda globiceps								5.0	
Eurycope mutica						2.5			
Gnathia dentata	2.5								
Gnathia elongata		2.5	2.5				2.5		5.0
Iollela erostrata									2.5
Janiropsis sp.	50.0	2.5							
Munna fabricii									15.0
Munna kroyeri		5.0		5.0	2.5	7.5			
Munna sp.								2.5	
Pleurogonium inerme				5.0		5.0	2.5		
Pleurogonium spinosissimum	2.5	2.5	5.0	5.0	7.5	10.0	2.5	10.0	
Pseudarachna hirsuta									2.5
ARTHROPODA:Nebaliacea									
Nebalia bipes								2.5	
ARTHROPODA:Ostracoda									
Cythereis tuberculata				2.5					
Cytheridea sp.				17.5					
Cytherois sp.				5.0					
Cytheropteron punctatum				2.5					
Cytheropteron sp.								2.5	
Hemicythere finmarchica				30.0					

Table 7. (cont'd.)

Species	1968				1969			1970	
	23 Jul	20 Aug	3 Sep	8 Oct	5 Jan	14 Mar	14 Jun	23 May	6 Aug
ARTHROPODA:Ostracoda									
Hemicythere quadridentata				2.5					
Macrocythere simplex								7.5	2.5
Philomedes globosus	1607.5	1987.5	2187.5	527.5	1050.0	2205.0	1085.0	2297.5	1090.0
ARTHROPODA:Pycnogonida									
Eurycyde hispida	2.5								
Nymphon hirtipes	30.0	5.0	2.5	12.5	7.5	15.0			22.5
Pseudopallene circularis	5.0								
ARTHROPODA:Tanaidacea									
Cryptocope arctica	50.0		2.5	12.5		7.5	20.0	2.5	7.5
Leptognathia longiremis		5.0			2.5	20.0	5.0	2.5	2.5
Paratanais batei			2.5				12.5		
Pseudotanais lilljeborgi	2.5	5.0	7.5	2.5	5.0	47.5	12.5	20.0	
Pseudotanais macrocheles		5.0	15.0		15.0	10.0	15.0	20.0	
Pseudotanais sp.									5.0
Sphyrapus anomalus	140.0	362.5	175.0	132.5	145.0	447.5	250.0	32.5	170.0
Typhlotanais aquiremis			5.0		10.0				
Typhlotanais finmarchicus						175.0	22.5	37.5	
ASCHELMINTHES:Nematoda									
Nematodes	600.0	35.0	190.0	9400.0	4392.5	14485.0	7082.5	400.0	517.5
BRACHIOPODA									
Atretia gnomon				2.5			2.5		15.0
Hemithyris psittacea	2.5		5.0	7.5		7.5		5.0	17.5
CHORDATA:Ascidiacea									
Aplidium glabrum							2.5		35.0
Ascidia callosa			5.0	25.0		7.5	7.5	2.5	
Ciona intestinalis	12.5		17.5	5.0	12.5			5.0	5.0
Cnemidocarpa sp.							2.5		

Table 7. (cont'd.)

Species	1968				1969			1970	
	23 Jul	20 Aug	3 Sep	8 Oct	5 Jan	14 Mar	14 Jun	23 May	6 Aug
CHORDATA:Ascidiacea									
Didemnun albidum								2.5	
Kukenthalia borealis	30.0							2.5	
Molgula sp.									5.0
Pelonaia corrugata							5.0		
Polycitor vitreus			20.0				7.5		
Styela coriacea			15.0				5.0		10.0
Styela rustica							2.5		2.5
Ascidians	20.0				2.5	5.0	2.5	15.0	
COELENTERATA:Anthozoa									
Edwardsia sp.						2.5			
Gersemia rubiformis			2.5					2.5	
Anthozoan	2.5	5.0			2.5			5.0	
COELENTERATA:Hydrozoa									
Hydrozoans				2.5	10.0				2.5
ECHINODERMATA:Asteroidea									
Henricia eschrichti									2.5
Solaster papposus	2.5								
Stephanasterias albula				5.0					
Asteroid			2.5						
ECHINODERMATA:Holothuroidea									
Psolus fabricii				2.0*					
Psolus phantapus			2.5						
Thyonidium sp.			2.5						2.5
Holothuroid	2.5		17.5		10.0			20.0	2.5
ECHINODERMATA:Ophiuroidea									
Amphiura sundevalli		2.5							
Ophiacantha bidentata	10.0	7.5	2.5	2.5	2.5				7.5

Table 7. (cont'd.)

Species	1968				1969			1970	
	23 Jul	20 Aug	3 Sep	8 Oct	5 Jan	14 Mar	14 Jun	23 May	6 Aug
ECHINODERMATA:Ophiuroidea									
Ophiopus arcticus	30.0	70.0	50.0	37.5	25.0	47.5	15.0	22.5	60.0
Ophiura robusta				2.5	5.0				
Stegophiura nodosa	22.5	2.5	20.5	2.5	2.5				
ECTOPROCTA									
Bryozoan					2.5	2.5			2.5
MOLLUSCA:Gastropoda									
Admete couthouyi						2.5			
Boreotrophon fabricii				2.5					
Cadlina laevis	2.5								
Cingula arenaria		20.0						2.5	
Cingula moerchi								2.5	
Colus pubescens	2.5								
Colus tortuosus		2.5	5.0		2 5				
Cylichna alba	7.5	2.5	5.0		2.5			15.0	10.0
Hydrobia minuta		5.0							
Lepeta caeca			2.5	12.5					
Lunatia pallida		2.5	5.0						2.5
Margarites olivaceus	2.5			10.0				2.5	12.5
Margarites umbilicalis				2.5					
Margarites vahli						2.5			
Oenopota arctica								5.0	
Oenopota incisula			5.0			2.5			
Philine finmarchia								2.5	
Retusa obtusa	12.5							12.5	
Scissurella crispata	2.5								
Tachyrhynchus reticulatus						2.5		5.0	
Trichotropis bicarinata		2.5						7.5	
Trichotropis conica	7.5					2.5			
Velutina undata	2.5								
Velutina velutina							2.5		
Gastropods			7.5	10.0					

Table 7. (cont'd.)

Species	1968				1969			1970	
	23 Jul	20 Aug	3 Sep	8 Oct	5 Jan	14 Mar	14 Jun	23 May	6 Aug
MOLLUSCA:Pelecypoda									
Astarte montagui							2.5		
Clinocardium ciliatum		5.0		2.5		2.5		2.5	
Dacrydium vitreum	17.5	30.0	12.5		12.5	10.0	15.0	20.0	17.5
Hiatella arctica	35.0	2.5	25.0	10.0			2.5		22.5
Macoma calcarea								2.5	
Macoma moesta					2.5			15.0	2.5
Macoma torelli								10.0	
Musculus discors	15.0	10.0	22.5	17.5	2.5		5.0		55.0
Musculus niger	2.5			2.5		17.5			2.5
Mya truncata	2.5			2.5		5.0			
Nucula belloti	30.0	12.5	25.0		2.5	57.5	12.5	57.5	52.5
Nuculana minuta	10.0	30.0	20.0	7.5	17.5	12.5	12.5	7.5	10.0
Nuculana pernula			5.0			2.5	7.5	10.0	2.5
Pandora glacialis			2.5		2.5	5.0	5.0	7.5	5.0
Pecten groenlandicus		2.5				2.5			
Periploma abyssorum		2.5						10.0	2.5
Thyasira gouldi	65.0	75.0	52.5	20.0	60.0	100.0	15.0	87.5	87.5
NEMERTINA									
Nemerteans	42.5	45.0	7.5	37.5	52.5	182.5	7.5	65.0	50.0
PLATYHELMINTHES:Turbellaria									
Turbellarian		5.0							2.5
PORIFERA									
Polymastia sp.									2.5
Sponges	37.5		15.0	42.5	20.0	22.5	42.5	5.0	
SIPUNCULIDA									
Golfingia margaritacea	35.0	10.0	17.5	5.0	7.5			17.5	25.0

Table 7. (cont'd.)

Species	1968				1969			1970	
	23 Jul	20 Aug	3 Sep	8 Oct	5 Jan	14 Mar	14 Jun	23 May	6 Aug
MISCELLANEOUS									
Unidentified invertebrates						7.5		2.5	2.5
Total	6632.5	7682.5	5122.5	134C7.0	11115.0	25342.5	12855.0	9210.0	7702.5

*Sample value used because of disproportionate representation.

Table 8. Biomass of benthic invertebrates collected by grab from station 5 in upper Frobisher Bay, 1968-1970. Data expressed as grams per square meter (g m^{-2}).

Species	1968				1969			1970	
	23 Jul	20 Aug	3 Sep	8 Oct	5 Jan	14 Mar	14 Jun	23 May	6 Aug
ANNELIDA:Polychaeta									
Ammotrypane breviata	0.0001	0.0001			0.0001	0.0020	0.0008	0.0010	0.0003
Ampharete acutifrons							0.0043		
Amphitrite groenlandica						0.0050		0.0688	0.0028
Antinoella badia		0.0005							
Apistobranchus tullbergi	0.0013	0.0010		0.0018	0.0043	0.0018	0.0018	0.0025	0.0043
Aricidea jeffreysi	0.0001	0.0001		0.0005	0.0005	0.0018	0.0003	0.0003	0.0003
Aricidea suecica	0.0040	0.0238	0.0038	0.0043	0.0083	0.0135	0.0128	0.0175	0.0185
Brada villosa		0.0190							
Branchiomma infarcta	0.0340	0.0210	0.0053	0.0173		0.1223	0.0430		
Chaetozone setosa	0.0053	0.1290	0.0060	0.0423	0.0663	0.0378	0.0378	0.0618	0.1130
Chaetozone sp.	0.0025	0.0313	0.0048	0.0400	0.0060	0.0083	0.0038	0.0135	0.1118
Chitinopoma fabricii	0.0030		0.0018	0.0028		0.0023	0.0010		0.0060
Chone duneri	0.0018	0.0108		0.0190	0.0068	0.0095	0.0065	0.0175	0.0148
Chone infundibuliformis	0.0003					0.0015	0.0033	0.0070	0.0053
Chone sp. a	0.0468	0.0290	0.0408	0.0240	0.0108	0.0235	0.0048		0.0753
Chone sp. b	0.0050	0.1103	0.0003	0.0163	0.0885	0.0800	0.0345	0.0355	0.0323
Cossura longocirrata	0.0035	0.0050	0.0003	0.0068	0.0078	0.0193	0.0100	0.0095	0.0088
Diplocirrus glaucus	0.0025	0.0288	0.0038	0.0180	0.0573	0.0178	0.0105	0.0185	0.0123
Enipo gracilis	0.1000	0.0593	0.1535	0.1075	0.2510		0.5248	0.5208	0.5648
Ephesiella minuta		0.0001	0.0001			0.0001		0.0003	
Eteone barbata						0.0023			
Eteone flava	0.0008	0.0020			0.0105	0.0015	0.0013	0.0050	0.0008
Eteone longa								0.0008	0.0015
Euchone analis	0.0035	0.0098	0.0020	0.0020	0.0048		0.0015	0.0060	0.0075
Euchone papillosa	0.0058	0.0198	0.0063	0.0020	0.0250	0.0220	0.0105	0.0113	0.0183
Eumida sp. a		0.0010				0.0010			0.0010
Eumida sp. b						0.0005			0.0003
Euphrosine borealis									0.0218
Euphrosine cirrata			0.0001	0.0001					
Eusyllis blomstrandi							0.0003		0.0010
Exogone dispar	0.0001			0.0001	0.0001	0.0005	0.0003	0.0001	0.0008

Table 8. (cont'd.)

Species	1968				1969			1970	
	23 Jul	20 Aug	3 Sep	8 Oct	5 Jan	14 Mar	14 Jun	23 May	6 Aug
ANNELIDA:Polychaeta									
Exogone naidina	0.0003	0.0005		0.0003	0.0003	0.0018	0.0003	0.0010	0.0005
Fabricia sabella	0.0095	0.0028	0.0010	0.0015	0.0770	0.0245	0.0135	0.0463	0.0288
Flabelligera affinis		0.0068							0.0010
Gattyana cirrosa		0.1040		0.0155		0.0740		0.1005	
Harmothoe extenuata	0.0005			0.0170			0.0003		0.0043
Harmothoe imbricata		0.0018			0.0050	0.0063	0.0180	0.0005	
Hesionid					0.0008				
Heteromastus sp.	0.0023	0.0005		0.0005	0.0005	0.0005	0.0008	0.0018	0.0008
Lanassa venusta	0.0018	0.0165		0.0008	0.0020	0.0043	0.0008		0.0175
Laonome kroyeri	0.0118	0.0015	0.0038		0.0060	0.0045	0.0145	0.0293	0.0080
Laphania boecki	0.0033	0.0410		0.0165	0.0260	0.0115	0.0223	0.0405	0.0468
Leaena abranchiata	0.0180						0.0015		
Leiochone polaris		0.0008				0.0005			
Lumbriclymene minor	0.0001				0.0023		0.0003	0.0035	0.0158
Lumbrineris fragilis								0.5260	
Lumbrineris minuta	0.0168	0.1675	0.0483	0.1360	0.2323	0.1713	0.0888	0.1065	0.2845
Lumbrineris tenuis	0.0005								
Maldane sarsi	0.1248	0.3855	0.3263	0.1395	0.4315	0.3320	0.2910	0.5613	0.4478
Melinna cristata	0.0230		0.0013	0.0105		0.0055			
Micronephtys minuta	0.0013	0.0048	0.0073	0.0015	0.0058	0.0118	0.0058	0.0358	0.0243
Microspio sp.									0.0005
Myriochele heeri	0.1525	0.5233	0.7765	0.1733	0.3920	0.5345	0.4345	0.7693	0.3320
Mystides borealis	0.0003	0.0001		0.0001			0.0003	0.0003	
Nephtys ciliata	0.0825	0.0223	0.4015	0.1905	0.0913	0.3540	0.2170	0.2213	0.2278
Nephtys paradoxa	4.6960	2.3303	0.5223	1.5268	0.3870	0.5625	0.7130	- 0.0620	0.2475
Nereimyra aphroditoides						0.0003			
Nichomache lumbricalis	2.5125	3.7033	0.9798	1.2310	1.5375	1.1455	5.1808	1.7878	5.8668
Nichomache quadrispinata	0.0090	0.0603	0.0050				0.0010		
Owenia fusiformis								0.0035	
Paraonis gracilis	0.0193	0.0395	0.0043	0.0080	0.0105	0.0065	0.0095	0.0050	0.0080
Paraonis sp. a		0.0008						0.0003	0.0005
Paraonis sp. b								0.0003	0.0005

Table 8. (cont'd.)

Species	1968				1969			1970	
	23 Jul	20 Aug	3 Sep	8 Oct	5 Jan	14 Mar	14 Jun	23 May	6 Aug
ANNELIDA: Polychaeta									
Petaloproctus tenuis		0.0035	0.0035	0.0063	0.0045	0.0040		0.0065	0.0288
Pherusa plumosa		0.2895		0.2570					
Pholoe minuta	0.0170	0.0258	0.0408	0.0175	0.0090	0.0130	0.0163	0.0148	0.0220
Phyllodoce groenlandica	0.0218	0.0635		0.0010		0.0090			0.0395
Pionosyllis compacta	0.0003	0.0025	0.0003	0.0010		0.0003	0.0015		0.0023
Pista flexuosa	0.0055		0.0225	0.0060				0.0115	
Pista maculata	4.7695	0.8400	0.1858	0.4738		0.1423	0.2018	0.0023	0.1990
Polycirrus medusa	0.0008	0.0073	0.0005	0.0233	0.0318	0.0108	0.0010		0.0250
Polydora caeca	0.0003	0.0570	0.0345	0.0068	0.0028	0.0068	0.0003	0.0018	0.0343
Polydora caulleryi	0.0003	0.0005	0.0003	0.0015	0.0003	0.0003	0.0001	0.0008	0.0005
Polydora quadrilobata			0.0005						
Potamilla neglecta									0.0025
Praxillella affinis	0.0135	0.0540	0.0055	0.0225	0.0195	0.0148	0.0280	0.0285	0.0438
Praxillella gracilis		0.0050					0.0075		
Praxillella praetermissa								0.0008	0.0690
Prionospio steenstrupi	0.0001	0.0130		0.0023	0.0038	0.0098	0.0073	0.0058	0.0073
Proclea graffi					0.0005				
Pygospio elegans							0.0001		
Sabella crassicornis	0.0253								
Sabellides borealis	0.0123		0.0050		0.0073				0.0008
Sabellides octocirrata	0.0098	0.0083		0.0015	0.0025	0.0115	0.0038	0.0010	0.0015
Scalibregma inflatum	0.0045	0.0070					0.0005	0.0003	0.0003
Scoloplos armiger	0.0013	0.0210		0.0008	0.0118	0.0043	0.0003	0.0015	0.0128
Sphaerodorum gracile	0.0083	0.0003	0.0050	0.0070		0.0005			0.0070
Sphaerosyllis erinaceus	0.0001	0.0001		0.0003	0.0001	0.0003	0.0008		0.0005
Spio filicornis	0.0048	0.0035	0.0008	0.0008	0.0010	0.0003			0.0010
Spirorbis sp.	0.0013		0.0025	0.0105		0.0003	0.0095		0.0078
Spirorbis sp.									0.0003
Spirorbis sp.									0.0003
Stauronereis caecus	0.0001	0.0001			0.0003	0.0005	0.0001		0.0005
Syllis cornuta	0.0060	0.0063	0.0070	0.0015	0.0005	0.0003	0.0008	0.0020	0.0140
Syllis fasciata	0.0585	0.0158	0.0068	0.0248	0.0003	0.0050	0.0238	0.0028	0.0703
Terebellides stroemi	0.0358	0.1135	0.0245	0.0348	0.1165	0.1665	0.0725	0.1788	0.2238

Table 8. (cont'd.)

Species	1968				1969			1970	
	23 Jul	20 Aug	3 Sep	8 Oct	5 Jan	14 Mar	14 Jun	23 May	6 Aug
ANNELIDA: Polychaeta									
Tharyx acutus	0.0050	0.0405	0.0005	0.0205	0.0300	0.0223	0.0170	0.0148	0.0810
Thelepus cincinnatus	0.1153						0.0640		
Trichobranchus glacialis	0.0078	0.0158			0.0010				
Pieces of polychaetes	0.0383		0.1408	0.2615	0.1118	0.2075	0.1385	0.1913	0.1105
ARTHROPODA: Amphipoda									
Acanthonotozoma serratum	0.0001	0.0001							0.0003
Aceroides l. latipes			0.0001		0.0008		0.0048		
Aeginina longicornis									0.0148
Ampelisca eschrichti	0.4210			0.0001		0.3808	0.0010		0.0010
Ampelisca macrocephala						0.0065			
Amphitopsis longicaudata	0.0001								
Andaniella pectinata	0.0008	0.0013		0.0005		0.0005	0.0008	0.0010	
Anonyx debruyni	0.0001		0.0028						
Anonyx lilljeborgi				0.0010					
Anonyx nugax						0.0245		0.0165	
Anonyx sp.	0.0043								
Argissa hamatipes		0.0013							
Arrhinopsis longicornis	0.0008		0.0005						
Arrhinopsis sp.									0.0005
Bathymedon obtusifrons	0.0003	0.0045	0.0001	0.0013	0.0010	0.0010	0.0003	0.0013	0.0008
Boeckosimus edwardsi		0.0008		0.0005		0.0001			
Byblis gaimardi			0.0040		0.0003				0.0155
Caprella dubia				0.0028		0.0005			0.0130
Caprella septentrionalis				0.0003					
Dulichia porrecta				0.0003	0.0001	0.0010	0.0001	0.0005	0.0003
Erichthonius tolli		0.0095	0.0123	0.0065					
Gammaropsis maculata			0.0013				0.0005	0.0002	0.0013
Gitanopsis inermis		0.0001							
Guernea nordenskioldi		0.0003	0.0003	0.0003	0.0003	0.0013	0.0003	0.0005	
Haploops tubicola	0.1385	0.0001	0.0001				0.0313		
Harpinia serrata	0.0015	0.0115	0.0095	0.0020	0.0030	0.0063	0.0110	0.0020	0.0095

Table 8. (cont'd.)

Species	1968				1969			1970	
	23 Jul	20 Aug	3 Sep	8 Oct	5 Jan	14 Mar	14 Jun	23 May	6 Aug
ARTHROPODA: Amphipoda									
Hippomedon propinquus	0.0003					0.0003		0.0050	
Ischyrocerus anguipes								0.0005	0.0023
Ischyrocerus latipes				0.0158					
Ischyrocerus megalops	0.0005	0.0033	0.0001	0.0003	0.0015	0.0028	0.0003		0.0023
Ischyrocerus nanoides		0.0005					0.0001		
Lembos sp.						0.0001		0.0005	
Melita dentata	0.0025							0.0008	
Melita quadrispinosa	0.0015								
Melita sp.					0.0003				0.0023
Metopa boecki									0.0005
Metopa bruzelii					0.0001				0.0020
Metopa carina	0.0005	0.0001	0.0023	0 0005	0.0010				
Metopa groenlandica								0.0020	0.0015
Metopa robusta									0.0003
Metopa sp.					0.0001		0.0001		0.0001
Metopella nasuta		0.0001	0.0001	0.0001	0.0003	0.0008	0.0003	0.0008	0.0003
Monoculodes latimanus	0.0020								
Monoculodes tuberculatus			0.0001						0.0010
Monoculodes sp.		0.0028	0.0001					0.0005	
Odius carinatus	0.0010			0.0010					
Oediceros borealis	0.0008	0.0003			0.0005	0.0001			
Orchomene groenlandica			0.0033						
Orchomene macroserrata							0.0005		
Orchomene minuta			0.0001			0.0001			
Orchomene serrata	0.0003	0.0008	0.0003						0.0363
Paradulichia typica			0.0005		0.0013	0.0010	0.0005	0.0003	0.0008
Pardalisca tenuipes	0.0003								
Photis tenuicornis							0.0001		
Phoxocephalus holbolli	0.0005	0.0030	0.0023	0.0001	0.0008	0.0005	0.0008	0.0020	0.0028
Pleustes media					0.0010				
Pleustes panopla									0.0018

Table 8. (cont'd.)

Species	1968				1969			1970	
	23 Jul	20 Aug	3 Sep	8 Oct	5 Jan	14 Mar	14 Jun	23 May	6 Aug
ARTHROPODA:Amphipoda									
Pleusymtes sp.									0.0001
Protomedeia fasciata		0.0008			0.0020	0.0008		0.0008	0.0003
Socarnes vahli				0.0290					
Stenopleustes pulchella			0.0030					0.0010	
Syrrhoe crenulata	0.0003								
Syrrhoe sp.		0.0001							0.0002
Tiron spiniferum		0.0055						0.0008	
Tryphosella schneideri		0.0020		0.0008			0.0008		0.0030
Unciola leucopis	0.0100	0.0220		0.0013				0.0015	0.0235
Westwoodilla brevicalar		0.0003			0.0008	0.0005		0.0008	0.0003
Westwoodilla megalops	0.0015	0.0128		0.0013	0.0030	0.0015		0.0023	0.0018
Amphipods			0.0045	0.0023		0.0038	0.0008		
ARTHROPODA:Cirripedia									
Balanus balanus	0.5028	5.1783		0.5600		0.1028	0.9205	0.0443	0.0035
Balanus crenatus			0.2728	0.8488					0.0958
ARTHROPODA:Cumacea									
Brachydiastylis resima	0.0008	0.0058	0.0018	0.0005	0.0073	0.0060	0.0060	0.0003	0.0008
Cumella sp.	0.0075	0.0108	0.0055	0.0055	0.0001	0.0025	0.0005	0.0058	0.0015
Diastylis goodsiri			0.0848					0.0225	
Diastylis lepechini	0.0033								
Diastylis lucifera			0.0010						
Diastylis scorpioides	0.0110		0.0025	0.0018		0.0133	0.0753	0.0070	
Eudorella emarginata	0.0145	0.0103	0.0063	0.0130	0.0033	0.0045	0.0053	0.0015	0.0025
Eudorella truncatula		0.0038	0.0013		0.0010	0.0008	0.0003	0.0001	0.0003
Eudorellopsis deformis			0.0008						
Lamprops fuscata		0.0003	0.0001		0.0001	0.0001	0.0001	0.0003	
Leptostylis ampullacea		0.0035	0.0005	0.0035					0.0003
Leptostylis longimana			0.0003					0.0001	
Leptostylis villosa			0.0001						
Leucon acutirostris	0.0013	0.0033	0.0028	0.0013	0.0003	0.0020	0.0020	0.0020	0.0008

Table 8. (cont'd.)

Species	1968				1969			1970	
	23 Jul	20 Aug	3 Sep	8 Oct	5 Jan	14 Mar	14 Jun	23 May	6 Aug
ARTHROPODA:Cumacea									
Leucon fulvus									0.0003
Leucon nasica	0.0048	0.0005	0.0065	0.0005	0.0010	0.0001	0.0001	0.0010	
Leucon nasiciodes		0.0025	0.0003			0.0010			0.0018
ARTHROPODA:Decapoda									
Spirontocaris spinus									0.5530
ARTHROPODA:Isopoda									
Desmosoma lineare	0.0010	0.0010	0.0008	0.0005	0.0020	0.0128	0.0070	0.0035	0.0010
Eugerda globiceps								0.0010	
Eurycope mutica						0.0001			
Gnathia dentata	0.0003								
Gnathia elongata		0.0010	0.0013				0.0010		0.0005
Iolella erostrata									0.0015
Janiropsis sp.	0.0193	0.0058							
Munna fabricii									0.0015
Munna kroyeri		0.0003		0.0005	0.0003	0.0003			
Munna sp.								0.0001	
Pleurogonium inerme				0.0001		0.0003	0.0001		
Pleurogonium spinosissimum	0.0001	0.0003	0.0005	0.0005	0.0003	0.0003	0.0001	0.0005	
Pseudarachna hirsuta									0.0008
ARTHROPODA:Nebaliacea									
Nebalia bipes								0.0208	
ARTHROPODA:Ostracoda									
Cythereis tuberculata				0.0001					
Cytheridea sp.				0.0010					
Cytheroie sp.				0.0003					
Cytheropteron punctatum				0.0001					
Cytheropteron sp.								0.0001	
Hemicythere finmarchica				0.0015					

Table 8. (cont'd.)

Species	1968				1969			1970	
	23 Jul	20 Aug	3 Sep	8 Oct	5 Jan	14 Mar	14 Jun	23 May	6 Aug
ARTHROPODA:Ostracoda									
Hemicythere quadridentata				0.0001					
Macrocythere simplex								0.0003	0.0003
Philomedes globosus	0.2710	0.2833	0.3490	0.0993	0.2843	0.2513	0.1365	0.3363	0.2135
ARTHROPODA:Pycnogonida									
Eurycyde hispida	0.0045								
Nymphon hirtipes	0.0168	0.0635	0.0228	0.1523	0.0013	0.0050			0.0098
Pseudopallene circularis	0.0013								
ARTHROPODA:Tanaidacea									
Cryptocope arctica	0.0013		0.0001	0.0005		0.0003	0.0003	0.0001	0.0008
Leptognathia longiremis		0.0001			0.0001	0.0005	0.0001	0.0001	0.0003
Paratanais betei			0.0003				0.0003		
Pseudotanais lilljeborgi	0.0001	0.0003	0.0003	0.0001	0.0003	0.0008	0.0003	0.0005	
Pseudotanais macrocheles		0.0001	0.0003		0.0003	0.0003	0.0003	0.0013	
Pseudotanais sp.									0.0003
Sphyrapus anomalus	0.0138	0.0395	0.0183	0.0088	0.0130	0.0268	0.0228	0.0030	0.0175
Typhlotanais aquiremis			0.0001		0.0013				
Typhlotanais finmarchicus						0.0013	0.0003	0.0003	
ASCHELMINTHES:Nematoda									
Nematodes	0.0050	0.0018	0.0155	0.0273	0.0068	0.0448	0.0158	0.0075	0.0120
BRACHIOPODA									
Atretia gnomon				0.0018			0.0001		0.0028
Hemithyris psittacea	0.0003		0.0150	0.0038		0.0003		0.0013	0.0388
CHORDATA:Ascidiacea									
Aplidium glabrum							0.1548		1.1758
Ascidia callosa			0.1185	2.1785		0.7648	0.0930	0.0538	
Ciona intestinalis	4.1600		4.6530	0.9380	4.6905			1.2470	1.4208
Cnemidocarpa sp.							0.1878		

Table 8. (cont'd.)

Species	1968				1969			1970	
	23 Jul	20 Aug	3 Sep	8 Oct	5 Jan	14 Mar	14 Jun	23 May	6 Aug
CHORDATA:Ascidiacea									
Didemnum albidum								0.1125	
Kukenthalia borealis	0.2215							0.0078	
Molgula sp.									0.2053
Pelonaia corrugata							0.2700		
Polycitor vitreus			0.3925				0.0658		
Styela coriacea			0.1960				0.1440		0.1515
Styela rustica							0.4445		0.0025
Ascidians	1.6898				0.1088	0.2423	0.0903	0.4578	
COELENTERATA:Anthoza									
Edwardsia sp.						0.0148			
Gersemia rubiformis			0.2219					0.7423	
Anthozoans	1.1363	0.0768			0.0168			0.0060	
COELENTERATA:Hydrozoa									
Hydrozoans				0.4868	0.0080				0.1718
ECHINODERMATA:Asteroidea									
Henricia eschrichti									0.0625
Solaster papposus	0.0040								
Stephanasterias albula				0.0418					
Asteroid			0.0070						
ECHINODERMATA:Holothuroidea									
Psolus fabricii				9.7604*					
Psolus phantapus			1.1800						
Thyonidium sp.			0.7373						0.1795
Holothuroid	0.0003		0.0483		0.0068			0.1338	0.0058
ECHINODERMATA:Ophiuroidea									
Amphiura sundevalli		0.1998							
Ophiacantha bidentata	2.9038	1.9823	0.8030	0.8030	1.2108				1.8030

Table 8. (cont'd.)

Species	1968				1969			1970	
	23 Jul	20 Aug	3 Sep	8 Oct	5 Jan	14 Mar	14 Jun	23 May	6 Aug
ECHINODERMATA:Ophiuroidea									
Ophiopus arcticus	0.6163	1.2060	1.1570	0.8675	0.4298	0.7400	0.1743	0.5695	0.7960
Ophiura robusta				0.0550	0.0213				
Stegophiura nodosa	0.0713	0.0110	0.1065	0.0145	0.0110				
ECTOPROCTA									
Bryozoans					0.1303	0.0003			0.0240
MOLLUSCA:Gastropoda									
Admete couthouyi						0.0228			
Boreotrophon fabricii				0.0013					
Cadlina laevis	0.0055								
Cingula arenaria		0.0045						0.0005	
Cingula moerchi								0.0003	
Colus pubescens	0.0178								
Colus tortuosus		0.0208	0.1853		0.0103				
Cylichna alba	0.0635	0.0560	0.0748		0.0048			0.1268	0.0615
Hydrobia minuta		0.0028							
Lepeta caeca			0.0373	0.1263					
Lunatia pallida		0.0005	0.0375						0.0103
Margarites olivaceus	0.0108			0.0025				0.0038	0.0048
Margarites umbilicalis				0.0010					
Margarites vahli						0.0008			
Oenopota arctica								0.0180	
Oenopota incisula			0.0050			0.0001			
Philine finmarchia								0.0001	
Retusa obtusa	0.0045							0.0020	
Scissurella crispata	0.0001								
Tachyrhynchus reticulatus						0.0238		0.0008	
Trichotropis bicarinata		0.0040						0.0133	
Trichotropis conica	0.0223					0.0035			
Velutina undata	0.0005								
Velutina velutina							0.0005		
Gastropods			0.0013	0.0023					

Table 8. (cont'd.)

Species	1968				1969			1970	
	23 Jul	20 Aug	3 Sep	8 Oct	5 Jan	14 Mar	14 Jun	23 May	6 Aug
MOLLUSCA:Pelecypoda									
Astarte montagui							0.0943		
Clinocardium ciliatum		2.6858		3.0000		2.7873		4.8650	
Dacrydium vitreum	0.0060	0.0080	0.0043		0.0055	0.0058	0.0023	0.0053	0.0065
Hiatella arctica	8.6388	0.0003	6.8355	0.0003			0.0005		3.8473
Macoma calcarea								0.4260	
Macoma moesta					0.0628			0.5375	0.1385
Macoma torelli								0.0170	
Musculus discors	0.2055	0.0005	0.4453	0.0003	0.0005		0.0015		0.0755
Musculus niger	0.5358			0.7883		1.2563			0.0620
Mya truncata	0.0073			1.7170		0.0038			
Nucula belloti	0.0478	0.0055	0.0005		0.0015	0.0010	0.0553	0.0023	0.0035
Nuculana minuta	0.0195	0.0575	0.0650	0.0168	0.0083	0.0400	0.0103	0.0685	0.0835
Nuculana pernula			0.1173			0.0008	0.0038	0.1645	0.0313
Pandora glacialis			0.0430		0.0023	0.0330	0.0048	0.0500	0.1178
Pecten groenlandicus		0.0050				0.0001			
Periploma abyssorum		0.1043						0.0083	0.0158
Thyasira gouldi	0.0183	0.0065	0.0108	0.0043	0.0080	0.0050	0.0020	0.0143	0.0223
NEMERTINA									
Nemerteans	0.0575	0.0568	0.0250	0.0430	0.0570	0.0990	0.0235	1.3850	0.0648
PLATYHELMINTHES:Turbellaria									
Turbellarian		0.0328							0.0010
PORIFERA									
Polymastia sp.									2.3665
Sponges	0.3420		0.5028	0.2575	1.0643	1.1708	1.3363	0.0040	
SIPUNCULIDA									
Golfingia margaritacea	0.0260	0.0120	16.9210	0.0068	0.0040			0.0123	2.1520

Table 8. (cont'd.)

Species	1968				1969			1970	
	23 Jul	20 Aug	3 Sep	8 Oct	5 Jan	14 Mar	14 Jun	23 May	6 Aug
MISCELLANEOUS									
Unidentified invertebrates						0.0020		0.1850	0.0615
Total	35.3732	21.7479	39.5854	27.8719	12.3159	12.3877	12.7325	17.3101	25.8211

*Sample value used because of disproportionate representation.

Table 9. Densities of benthic invertebrates collected by grab from stations 5c, 5d, 5e, 5f in upper Frobisher Bay, 23 August 1969. Data expressed as number of individuals per square meter (no. m^{-2}).

Species	5c(31 m)	5d(43 m)	5e(58 m)	5f(73 m)
ANNELIDA:Hirudinea				
Leech			2.5	
ANNELIDA:Polychaeta				
Ammotrypane breviata	55.0	2.5	2.5	
Ampharete acutifrons			2.5	2.5
Ampharete arctica		2.5		
Amphitrite cirrata		5.0		
Amphitrite groenlandica	2.5			2.5
Apistobranchus tullbergi	45.0	47.5	82.5	30.0
Aricidea jeffreysi	190.0	15.0	7.5	7.5
Aricidea suecica	225.0	125.0	265.0	167.5
Brada granosa	7.5			
Brada villosa	10.0			
Branchiomma infarcta		12.5		2.5
Capitella capitata	12.5	5.0	2.5	
Chaetozone setosa	227.5	190.0	220.0	145.0
Chaetozone sp.	130.0	132.5	160.0	92.5
Chitinopoma fabricii	5.0	65.0		7.5
Chone duneri	10.0	12.5	2.5	5.0
Chone sp. a	60.0	182.5	85.0	137.5
Chone sp. b	87.5	455.0	422.5	317.5
Cossura longocirrata	947.5	332.5	347.5	437.5
Diplocirrus glaucus	32.5	7.5	10.0	5.0
Enipo gracilis		10.0	12.5	15.0
Ephesiella minuta	2.5	2.5		
Ephesiella peripatus	5.0			
Eteone barbata	2.5	2.5	2.5	2.5
Eteone flava	12.5	2.5	7.5	10.0
Euchone analis	15.0	17.5	7.5	5.0
Euchone papillosa	562.5	282.5	687.5	222.5
Eumida sp. a			5.0	
Eumida sp. b	15.0			
Eusyllis blomstrandi	5.0	5.0		2.5
Exogone dispar	25.0	5.0	5.0	
Exogone naidina	270.0	55.0	30.0	50.0
Fabricia sabella	80.0	1662.5	1502.5	1300.0
Flabelligera affinis	15.0		2.5	
Gattyana cirrosa	2.5			2.5
Harmothoe extenuata	5.0	7.5	5.0	5.0
Harmothoe imbricata	20.0	5.0	2.5	
Hesionid			5.0	

Table 9. (cont'd.)

Species	5c(31 m)	5d(43 m)	5e(58 m)	5f(73 m)
ANNELIDA:Polychaeta				
Heteromastus sp.	102.5	2.5	7.5	10.0
Lanassa venusta	10.0	5.0	17.5	5.0
Laonice cirrata		2.5		
Laonome kroyeri	5.0	10.0	47.5	10.0
Laphania boecki	12.5	32.5	52.5	72.5
Leaena abranchiata			2.5	
Lumbriclymene minor		2.5	10.0	2.5
Lumbrineris minuta	145.0	90.0	75.0	180.0
Maldane sarsi	117.5	172.5	395.0	347.5
Melinna cristata			2.5	2.5
Micronephthys minuta	15.0	70.0	112.5	75.0
Myriochele heeri	200.0	125.0	242.5	215.0
Mystides borealis	2.5	5.0	5.0	7.5
Nephtys ciliata	7.5		12.5	2.5
Nephtys paradoxa	2.5	12.5	5.0	7.5
Nicolea zostericola		2.5		
Nicomache lumbricalis	7.5	10.0	12.5	22.5
Nicomache quadrispinata	2.5	2.5		7.5
Owenia fusiformis				35.0
Parahesione sp.	25.0			
Paraonis gracilis	190.0	205.0	162.5	197.5
Paraonis sp. a	535.0	72.5	60.0	2.5
Paraonis sp. b			20.0	12.5
Petaloproctus tenuis	80.0	25.0	52.5	27.5
Pherusa plumosa	2.5			
Pholoe minuta	382.5	297.5	132.5	82.5
Phyllodoce groenlandica			15.0	
Pionosyllis compacta	47.5	52.5	35.0	17.5
Pista flexuosa		7.5	5.0	2.5
Pista maculata	15.0	15.0	10.0	15.0
Polycirrus medusa	2.5	2.5	15.0	40.0
Polydora caeca	110.0	120.0	120.0	97.5
Polydora caulleryi	40.0	67.5	40.0	90.0
Polydora quadrilobata	5.0			
Polydora sp.		40.0	2.5	2.5
Praxillella affinis	45.0	45.0	70.0	72.5
Praxillella praetermissa	5.0	2.5	5.0	10.0
Prionospio steenstrupi	45.0	30.0	82.5	105.0
Sabella crassicornis		7.5	10.0	2.5
Sabellides borealis			2.5	
Sabellides octocirrata	205.0	95.0	45.0	15.0
Scalibregma inflatum	7.5	2.5	5.0	
Scoloplos armiger	32.5	57.5	7.5	5.0

Table 9. (cont'd.)

Species	5c(31 m)	5d(43 m)	5e(58 m)	5f(73 m)
ANNELIDA:Polychaeta				
Sphaerodorum gracile	5.0	7.5		7.5
Sphaerosyllis erinaceus	27.5	10.0	12.5	25.0
Spio filicornis	5.0	2.5		
Spirorbis granulatus		12.5		5.0
Spirorbis spirillum		10.0		
Spirorbis sp.	7.5	2.5	10.0	
Stauronereis caecus	7.5	5.0	7.5	5.0
Syllis cornuta	40.0	55.0	37.5	60.0
Syllis fasciata	10.0	62.5	15.0	20.0
Terebellides stroemi	52.5	30.0	112.5	52.5
Tharyx acutus	275.0	302.5	515.0	447.5
Thelepus cincinnatus		27.5	2.5	
Trichobranchus glacialis	10.0	7.5	5.0	
Pieces of polychaetes	X	X	X	X
ARTHROPODA:Amphipoda				
Acanthonotozoma serratum	2.5			
Aceroides l. latipes			10.0	
Aceroides sp.			2.5	
Aeginina longicornis				2.5
Ampelisca eschrichti		10.0		2.5
Amphithopsis longicaudata		15.0		
Andaniella pectinata		37.5	12.5	
Anonyx compactus		10.0		
Anonyx lilljeborgi			2.5	
Argissa hamatipes			10.0	2.5
Arrhinopsis longicornis	2.5			
Bathymedon obtusifrons	5.0	2.5	2.5	10.0
Byblis gaimardi	5.0		2.5	7.5
Dulichia porrecta	155.0	12.5	37.5	10.0
Erichthonius tolli			2.5	95.0
Gammaropsis maculata			2.5	
Gitanopsis inermis	2.5			
Guernea nordenskioldi	25.0	10.0	15.0	
Halirages fulvocintus	2.5			
Halirages megalops	10.0			
Haploops tubicola		5.0		2.5
Harpinia serrata		17.5	20.0	20.0
Ischyrocerus megalops		17.5	17.5	5.0
Lembos sp.		2.5		
Melita quadrispinosa			5.0	
Mesopleustes sp.	2.5			
Metopa lindecki	2.5			

Table 9. (cont'd.)

Species	5c(31 m)	5d(43 m)	5e(58 m)	5f(73 m)
ARTHROPODA:Amphipoda				
Metopa groenlandica	5.0	105.0	50.0	
Metopa robusta				5.0
Metopella nasuta		2.5	10.0	
Metopella sp.		2.5		
Monoculodes latimanus	2.5		2.5	
Monoculodes tuberculatus		12.5	5.0	2.5
Monoculodes sp. c	7.5	15.0	2.5	
Odius carinatus	2.5			
Oediceros sp.		5.0		
Orchomene macroserrata		5.0		
Orchomene minuta		2.5		
Orchomene serrata		17.5	7.5	10.0
Paradulichia typica	2.5	42.5	2.5	2.5
Pardalisca cuspidata		5.0		
Paroediceros sp.			2.5	
Phoxocephalus holbolli	7.5	17.5		5.0
Pleustes media			2.5	
Protomedeia fasciata		10.0	12.5	
Socarnes bidenticulatus			2.5	
Socarnes sp.		2.5		
Stenopleustes pulchella	2.5		5.0	
Syrrhoe crenulata		10.0		2.5
Syrrhoe sp.	2.5	5.0		
Tiron spiniferum			2.5	
Tryphosella schneideri	7.5	7.5		
Unciola leucopis		5.0	2.5	5.0
Westwoodilla brevicalar	15.0	17.5	22.5	
Westwoodilla megalops	7.5	17.5	10.0	7.5
Amphipod		12.5		
ARTHROPODA:Cirripedia				
Balanus balanus	2.5	325.0	5.0	
Balanus crenatus		35.0	2.5	27.5
ARTHROPODA:Cumacea				
Brachydiastylis resima	2.5		17.5	7.5
Cumella sp.	125.0	467.5	60.0	25.0
Diastylis goodsiri		2.5		
Diastylis scorpioides	2.5	5.0		
Diastylis sp.				2.5
Eudorella emarginata	2.5	17.5	10.0	17.5
Eudorella truncatula			5.0	
Lamprops fuscata		2.5		2.5

Table 9. (cont'd.)

Species	5c(31 m)	5d(43 m)	5e(58 m)	5f(73 m)
ARTHROPODA:Cumacea				
Leptostylis ampullacea	2.5	2.5		
Leucon acutirostris	30.0	30.0	5.0	20.0
Leucon nasica	5.0	7.5	2.5	
Leucon nasicoides	10.0	12.5	2.5	
ARTHROPODA:Isopoda				
Desmosoma lineare	20.0	92.5	45.0	22.5
Eurycope sp.	2.5			
Gnathia sp.			2.5	
Janiropsis sp.		5.0		
Munna boecki	2.5			
Munna fabricii	12.5			
Munna kroyeri	25.0	17.5	10.0	
Munna limicola	20.0	7.5		
Pleurogonium spinosissimum	17.5	10.0	2.5	5.0
Synidotea sp. a				5.0
ARTHROPODA:Ostracoda				
Cythereis tuberculata	32.5	2.5	5.0	
Cytheridea sp.	7.5		2.5	2.5
Hemicythere finmarchica	5.0		2.5	7.5
Hemicythere quadridentata			2.5	
Hemicythere sp. a	2.5		2.5	
Hemicythere sp. b	2.5			
Macrocythere simplex	5.0	5.0		
Philomedes globosus	2287.5	1945.0	1107.5	752.5
ARTHROPODA:Pycnogonida				
Eurycyde hispida	2.5			
Nymphon hirtipes		40.0	12.5	12.5
Nymphon sp.	12.5			
Pseudopallene circularis	2.5			
ARTHROPODA:Tanaidacea				
Cryptocope arctica		2.5	2.5	
Leptognathia longiremis	5.0	22.5		2.5
Pseudotanais lilljeborgi		15.0		2.5
Pseudotanais macrocheles	2.5		7.5	
Sphyrapus anomalus		45.0	2.5	172.5
Typhlotanais finmarchicus	5.0	12.5		2.5
ASCHELMINTHES:Nematoda				
Nematode	5882.5	570.0	250.0	195.0

Table 9. (cont'd.)

Species	5c(31 m)	5d(43 m)	5e(58 m)	5f(73 m)
BRACHIOPODA				
Atretia gnomon			2.5	27.5
Hemithyris psittacea			15.0	12.5
CHORDATA:Ascidiacea				
Ascidia callosa		97.5	12.5	12.5
Botrylloides aureum			2.5	
Chelyosoma sp.			10.0	
Ciona intestinalis		20.0	15.0	
Didemnum albidum	12.5	7.5		5.0
Molgula sp.		7.5		7.5
Styela rustica		7.5		
Ascidian	15.0	52.5	50.0	37.5
COELENTERATA:Anthozoa				
Anemone	2.5		2.5	2.5
ECHINODERMATA:Crinoidea				
Heliometra glacialis	1.0*			
ECHINODERMATA:Holothuroidea				
Psolus fabricii	2.5	2.5		
Holothuroid		2.5	12.5	
ECHINODERMATA:Ophiuroidea				
Amphiura sundevalli		2.5		
Ophiacantha bidentata	35.0	12.5	12.5	7.5
Ophiopus arcticus	107.5	100.0	40.0	32.5
Ophiura robusta	5.0			
Stegophiura nodosa	27.5	2.5	2.5	2.5
ECTOPROCTA				
Alcyonidium gelatinosum		7.5	12.5	
Microporina articulata	2.5			
MOLLUSCA:Gastropoda				
Acmaea rubella	20.0	10.0		
Admete couthouyi	2.5			
Alvania sp.	17.5	2.5		
Boreotrophon fabricii		2.5		
Cingula moerchi	5.0			
Colus tortuosus	2.5			
Cylichna alba	25.0	2.5	5.0	5.0
Cylichna occulta			2.5	

Table 9. (cont'd.)

Species	5c(31 m)	5d(43 m)	5e(58 m)	5f(73 m)
MOLLUSCA:Gastropoda				
Lepeta caeca	2.5	5.0		2.5
Lunatia pallida				2.5
Margarites costalis	2.5			
Margarites groenlandicus	10.0			
Margarites olivaceus	20.0	22.5		2.5
Margarites umbilicalis	2.5			
Margarites vahli	10.0	15.0		
Moelleria costulata	15.0			
Oenopota incisula		2.5	2.5	
Oenopota turricula		2.5		
Puncturella noachina	2.5			
Retusa obtusa	22.5	5.0	10.0	
Scissurella crispata	30.0	17.5		
Tachyrhynchus reticulatus	20.0			
Taranis amoena			2.5	
Trichotropis bicarinata				2.5
Trichotropis borealis	2.5			
Trichotropis conica		2.5		
Velutina velutina		5.0	2.5	
Gastropod	22.5			
MOLLUSCA:Pelecypoda				
Astarte borealis		2.5		
Astarte montagui	5.0	2.5		
Clinocardium ciliatum		2.5	2.5	
Dacrydium vitreum	5.0	17.5	12.5	32.5
Hiatella arctica	67.5	45.0	15.0	5.0
Macoma calcarea	35.0			5.0
Macoma moesta		5.0	5.0	
Musculus discors	197.5	22.5	30.0	20.0
Musculus niger		5.0		2.5
Mya truncata	22.5	2.5		2.5
Nucula belloti	15.0	25.0	20.0	25.0
Nuculana minuta	45.0	7.5	22.5	17.5
Nuculana pernula			2.5	2.5
Pandora glacialis	2.5			
Periploma abyssorum	5.0		5.0	
Serripes groenlandicus	2.5			
Thyasira gouldi	137.5	67.5	85.0	82.5
Pelecypod		10.0		
NEMERTINA				
Nemertean	117.5	60.0	152.5	65.0

Table 9. (cont'd.)

Species	5c(31 m)	5d(43 m)	5e(58 m)	5f(73 m)
PLATYHELMINTHES:Turbellaria Turbellarian	7.5	7.5	2.5	
PORIFERA Sponge	25.0	80.0	5.0	12.5
PRIAPULIDA *Priapulus caudatus*	10.0			2.5
SIPUNCULIDA Sipunculid	102.5	17.5	40.0	25.0
Total	15993.5	10832.5	8970.0	7342.5

*Sample value used because of disproportionate representation.

Table 10. Biomass of benthic invertebrates collected by grab from stations 5c, 5d, 5e, 5f in upper Frobisher Bay, 23 August 1969. Date expressed as grams per square meter ($g\ m^{-2}$).

Species	5c(31 m)	5d(43 m)	5e(58 m)	5f(73 m)
ANNELIDA:Hirudinea				
Leech			0.0038	
ANNELIDA:Polychaeta				
Ammotrypane breviata	0.0063	0.0003	0.0003	
Ampharete acutifrons			0.0001	0.0025
Ampharete arctica		0.0013		
Amphitrite cirrata		0.0335		
Amphitrite groenlandica	0.0300			0.0063
Apistobranchus tullbergi	0.0018	0.0018	0.0025	0.0013
Aricidea jeffreysi	0.0038	0.0005	0.0003	0.0003
Aricidea suecica	0.0200	0.0085	0.0210	0.0113
Brada granosa	0.0043			
Brada villosa	0.0478			
Branchiomma infarcta		1.1348		0.0095
Capitella capitata	0.0010	0.0005	0.0008	
Chaetozone setosa	0.1290	0.0718	0.1153	0.0800
Chaetozone sp.	0.0683	0.0400	0.0533	0.0408
Chitinopoma fabricii	0.0010	0.0088		0.0020
Chone duneri	0.0138	0.0188	0.0028	0.0053
Chone sp. a	0.0088	0.1150	0.0213	0.0308
Chone sp. b	0.0155	0.0873	0.1130	0.0628
Cossura longocirrata	0.0155	0.0043	0.0063	0.0075
Diplocirrus glaucus	0.0230	0.0135	0.0070	0.0028
Enipo gracilis		0.2510	0.2283	0.4513
Ephesiella minuta	0.0003	0.0003		
Ephesiella peripatus	0.0005			
Eteone barbata	0.0065	0.0030	0.0098	0.0005
Eteone flava	0.0065	0.0025	0.0033	0.0033
Euchone analis	0.0150	0.0158	0.0123	0.0003
Euchone papillosa	0.0345	0.0368	0.0663	0.0125
Eumida sp. a			0.0005	
Eumida sp. b	0.0013			
Eusyllis blomstrandi	0.0003	0.0003		0.0001
Exogone dispar	0.0013	0.0005	0.0005	
Exogone naidina	0.0038	0.0008	0.0005	0.0008
Fabricia sabella	0.0045	0.0638	0.0733	0.0575
Flabelligera affinis	0.0225		0.0020	
Gattyana cirrosa	0.0680			0.0555
Harmothoe extenuata	0.0078	0.0558	0.0045	0.0005
Harmothoe imbricata	0.0670	0.0005	0.0045	
Hesionid			0.0001	

Table 10. (cont'd.)

Species	5c(31 m)	5d(43 m)	5e(58 m)	5f(73 m)
ANNELIDA:Polychaeta				
Heteromastus sp.	0.0098	0.0005	0.0005	0.0015
Lanassa venusta	0.0008	0.0128	0.0038	0.0045
Laonice cirrata		0.0010		
Laonome kroyeri	0.0005	0.0058	0.0498	0.0028
Laphania boecki	0.0040	0.0068	0.0303	0.0330
Leaena abranchiata			0.0010	
Lumbriclymene minor		0.0055	0.0108	0.0010
Lumbrineris minuta	0.1318	0.1228	0.1135	0.2535
Maldane sarsi	0.1100	0.2035	0.4088	0.2553
Melinna cristata			0.0840	0.0028
Micronephthys minuta	0.0043	0.0120	0.0200	0.0083
Myriochele heeri	0.2198	0.3933	0.5968	0.4010
Mystides borealis	0.0005	0.0010	0.0010	0.0013
Nephtys ciliata	0.3943		0.3505	0.0455
Nephtys paradoxa	0.4948	1.9673	1.8213	1.5545
Nicolea zostericola		0.0060		
Nicomache lumbricalis	0.5950	2.0140	2.2868	3.2833
Nicomache quadrispinata	0.0005	0.0050		0.0188
Owenia fusiformis				0.0060
Parahesione sp.	0.0005			
Paraonis gracilis	0.0128	0.0125	0.0168	0.0140
Paraonis sp. a	0.0160	0.0018	0.0018	0.0001
Paraonis sp. b			0.0025	0.0003
Petaloproctus tenuis	0.0415	0.0228	0.0240	0.0090
Pherusa plumosa	0.0035			
Pholoe minuta	0.0535	0.0363	0.0175	0.0143
Phyllodoce groenlandica			0.9130	
Pionosyllis compacta	0.0058	0.0073	0.0035	0.0023
Pista flexuosa		0.0135	0.0423	0.0008
Pista maculata	0.4478	0.4980	0.0760	0.3343
Polycirrus medusa	0.0008	0.0003	0.0140	0.0403
Polydora caeca	0.0340	0.0268	0.0300	0.0283
Polydora caulleryi	0.0030	0.0050	0.0028	0.0033
Polydora quadrilobata	0.0003			
Polydora sp.		0.0020	0.0001	0.0001
Praxillella affinis	0.0135	0.0163	0.0218	0.0240
Praxillella praetermissa	0.0163	0.0025	0.0055	0.0305
Prionospio steenstrupi	0.0043	0.0020	0.0118	0.0078
Sabella crassicornis		0.0343	0.0245	0.0028
Sabellides borealis			0.0025	
Sabellides octocirrata	0.0210	0.0085	0.0050	0.0010
Scalibregma inflatum	0.0010	0.0010	0.0005	
Scoloplos armiger	0.0090	0.0093	0.0028	0.0013

Table 10. (cont'd.)

Species	5c(31 m)	5d(43 m)	5e(58 m)	5f(73 m)
ANNELIDA:Polychaeta				
Sphaerodorum gracile	0.0073	0.0013		0.0050
Sphaerosyllis erinaceus	0.0008	0.0003	0.0003	0.0003
Spio filicornis	0.0020	0.0015		
Spirorbis granulatus		0.0008		0.0005
Spirorbis spirillum		0.0005		
Spirorbis sp.	0.0008	0.0020	0.0073	
Stauronereis caecus	0.0003	0.0003	0.0005	0.0005
Syllis cornuta	0.0168	0.0115	0.0098	0.0190
Syllis fasciata	0.0015	0.0790	0.0160	0.0343
Terebellides stroemi	0.0635	0.0405	0.3243	0.0983
Tharyx acutus	0.0540	0.0308	0.0433	0.0398
Thelepus cincinnatus		1.1725	0.1265	
Trichobranchus glacialis	0.0050	0.0098	0.0010	
Pieces of polychaetes	0.1890	0.2978	0.1388	0.2545
ARTHROPODA:Amphipoda				
Acanthonotozoma serratum	0.0003			
Aceroides l. latipes			0.0025	
Aceroides sp.			0.0005	
Aeginina longicornis				0.0305
Ampelisca eschrichti		0.0058		0.0333
Amphithopsis longicaudata		0.0010		
Andaniella pectinata		0.0018	0.0005	
Anonyx compactus		0.0095		
Anonyx lilljeborgi			0.0005	
Argissa hamatipes			0.0018	0.0005
Arrhinopsis longicornis	0.0003			
Bathymedon obtusifrons	0.0005	0.0003	0.0003	0.0005
Byblis gaimardi	0.0015		0.0005	0.0018
Dulichia porrecta	0.0113	0.0008	0.0015	0.0008
Erichthonius tolli			0.0015	0.0183
Gammaropsis maculata			0.0003	
Gitanopsis inermis	0.0003			
Guernea nordenskioldi	0.0008	0.0005	0.0008	
Halirages fulvocintus	0.0003			
Halirages megalops	0.0005			
Haploops tubicola		0.0093		0.0008
Harpinia serrata		0.0038	0.0038	0.0048
Ischyrocerus megalops		0.0025	0.0023	0.0003
Lembos sp.		0.0001		
Melita quadrispinosa			0.0250	
Mesopleustes sp.	0.0001			
Metopa boecki	0.0001			

Table 10. (cont'd.)

Species	5c(31 m)	5d(43 m)	5e(58 m)	5f(73 m)
ARTHROPODA:Amphipoda				
Metopa groenlandica	0.0008	0.0153	0.0050	
Metopa robusta				0.0005
Metopella nasuta		0.0001	0.0003	
Metopella sp.		0.0001		
Monoculodes latimanus	0.0008		0.0001	
Monoculodes tuberculatus		0.0038	0.0018	0.0008
Monoculodes sp. c	0.0023	0.0013	0.0003	
Odius carinatus	0.0001			
Oediceros sp.		0.0001		
Orchomene macroserrata		0.0035		
Orchomene minuta		0.0013		
Orchomene serrata		0.0160	0.0013	0.0025
Paradulichia typica	0.0001	0.0015	0.0008	0.0005
Pardalisca cuspidata		0.0180		
Paroediceros sp.			0.0005	
Phoxocephalus holbolli	0.0008	0.0015		0.0008
Pleustes media			0.0003	
Protomedeia fasciata		0.0018	0.0018	
Socarnes bidenticulatus			0.4483	
Socarnes sp.		0.0010		
Stenopleustes pulchella	0.0005		0.0025	
Syrrhoe crenulata		0.0033		0.0020
Syrrhoe sp.	0.0001	0.0001		
Tiron spiniferum			0.0003	
Tryphosella schneideri	0.0005	0.0033		
Unciola leucopis		0.0078	0.0135	0.0218
Westwoodilla brevicalar	0.0013	0.0020	0.0018	
Westwoodilla megalops	0.0013	0.0055	0.0030	0.0035
Amphipod		0.0013		
ARTHROPODA:Cirripedia				
Balanus balanus	0.0165	1.3858	0.7995	
Balanus crenatus		0.0245	0.0798	0.2920
ARTHROPODA:Cumacea				
Brachydiastylis resima	0.0008		0.0023	0.0003
Cumella sp.	0.0370	0.0885	0.0098	0.0065
Diastylis goodsiri		0.0598		
Diastylis scorpioides	0.0073	0.0013		
Diastylis sp.				0.0025
Eudorella emarginata	0.0001	0.0068	0.0015	0.0018
Eudorella truncatula			0.0023	
Lamprops fuscata		0.0001		0.0001

Table 10. (cont'd.)

Species	5c(31 m)	5d(43 m)	5e(58 m)	5f(73 m)
ARTHROPODA:Cumacea				
Leptostylis ampullacea	0.0008	0.0003		
Leucon acutirostris	0.0013	0.0013	0.0003	0.0010
Leucon nasica	0.0013	0.0035	0.0003	
Leucon nasicoides	0.0010	0.0015	0.0005	
ARTHROPODA:Isopoda				
Desmosoma lin.. re	0.0005	0.0023	0.0013	0.0008
Eurycope sp.	0.0001			
Gnathia sp.			0.0001	
Janiropsis sp.		0.0010		
Munna boecki	0.0001			
Munna fabricii	0.0007			
Munna kroyeri	0.0015	0.0013	0.0005	
Munna limicola	0.0010	0.0005		
Pleurogonium spinosissimum	0.0013	0.0008	0.0001	0.0005
Synidotea sp. a				0.0015
ARTHROPODA:Ostracoda				
Cythereis tuberculata	0.0018	0.0001	0.0003	
Cytheridea sp.	0.0005		0.0001	0.0001
Hemicythere finmarchica	0.0003		0.0001	0.0005
Hemicythere quadridentata			0.0001	
Hemicythere sp. a	0.0001		0.0001	
Hemicythere sp. b	0.0001			
Macrocythere simplex	0.0003	0.0003		
Philomedes globosus	0.3460	0.3015	0.1825	0.1113
ARTHROPODA:Pycnogonida				
Eurycyde hispida	0.0028			
Nymphon hiritipes		0.0985	0.0143	0.0240
Nymphon sp.	0.0030			
Pseudopallene circularis	0.0005			
ARTHROPODA:Tanaidacea				
Cryptocope arctica		0.0003	0.0001	
Leptognathia longiremis	0.0001	0.0013		0.0001
Pseudotanais lilljeborgi		0.0008		0.0001
Pseudotanais macrocheles	0.0001		0.0003	
Sphyrapus anomalus		0.0050	0.0005	0.0160
Typhlotanais finmarchicus	0.0001	0.0003		0.0001
ASCHELMINTHES:Nematoda				
Nematode	0.0813	0.0223	0.0158	0.0150

Table 10. (cont'd.)

Species	5c(31 m)	5d(43 m)	5e(58 m)	5f(73 m)
BRACHIOPODA				
Atretia gnomon			0.0005	0.0298
Hemithyris psittacea			0.0795	0.0015
CHORDATA:Ascidiacea				
Ascidia callosa		17.6208	2.5193	2.5000
Botrylloides aureum			0.2190	
Chelyosoma sp.			0.0458	
Ciona intestinalis		6.4135	5.1943	
Didemnum albidum	1.0300	0.0665		0.0773
Molgula sp.		2.4710		0.2278
Styela rustica		0.0785		
Ascidian	0.0625	5.4575	0.7263	2.6935
COELENTERATA:Anthozoa				
Anemone	0.0163		0.9143	0.0220
ECHINODERMATA:Crinoidea				
Heliometra glacialis	8.8400*			
ECHINODERMATA:Holothuroidea				
Psolus fabricii	0.0100	0.0088		
Holothuroid		0.0248	0.0160	
ECHINODERMATA:Ophiuriodea				
Amphiura sundevalli		0.0260		
Ophiacantha bidentata	9.3750	2.8665	4.0763	2.9280
Ophiopus arcticus	3.4180	2.2435	0.7440	0.5613
Ophiura robusta	0.7500			
Stegophiura nodosa	0.1715	0.0148	0.0085	0.0038
ECTOPROCTA				
Alcyonidium gelatinosum		0.0298	0.0495	
Microporina articulata	1.7350			
MOLLUSCA:Gastropoda				
Acmaea rubella	0.0028	0.0010		
Admete couthouyi	0.0028			
Alvania sp.	0.0153	0.0025		
Boretrophon fabricii		0.7788		
Cingula moerchi	0.0053			
Colus tortuosus	0.4390			
Cylichna alba	0.0568	0.0743	0.0363	0.0320
Cylichna occulta			0.0053	

Table 10. (cont'd.)

Species	5c(31 m)	5d(43 m)	5e(58 m)	5f(73 m)
MOLLUSCA:Gastropoda				
Lepeta caeca	0.0948	0.1543		0.0510
Lunatia pallida				0.0040
Margarites costalis	0.1178			
Margarites groenlandicus	0.0010			
Margarites olivaceus	0.0395	0.0383		0.0005
Margarites umbilicalis	0.1570			
Margarites vahli	0.0065	0.0033		
Moelleria costulata	0.0053			
Oenopota incisula		0.0023	0.0035	
Oenopota turricula		0.0025		
Puncturella noachina	0.0003			
Retusa obtusa	0.0033	0.0005	0.0013	
Scissurella crispata	0.0050	0.0015		
Tachyrhynchus reticulatus	0.0895			
Taranis amoena			0.0005	
Trichotropis bicarinata				0.0013
Trichotropis borealis	0.0150			
Trichotropis conica		0.0583		
Velutina velutina		0.0008	0.0063	
Gastropod	0.0010			
MOLLUSCA:Pelecypoda				
Astarte borealis		1.3453		
Astarte montagui	0.2923	0.1460		
Clinocardium ciliatum		5.6105	4.1915	
Dacrydium vitreum	0.0003	0.0090	0.0018	0.0118
Hiatella arctica	26.1603	12.4970	3.4660	1.2758
Macoma calcarea	1.0470			0.8303
Macoma moesta		0.0013	0.1680	
Musculus discors	2.6750	0.0005	0.7598	0.0005
Musculus niger		1.2905		2.0220
Mya truncata	6.2150	2.1520		0.0028
Nucula belloti	0.0013	0.0558	0.0218	0.0020
Nuculana minuta	0.2433	0.0038	0.0178	0.0125
Nuculana pernula			0.1908	0.0363
Pandora glacialis	0.0648			
Periploma abyssorum	0.0263		0.0740	
Serripes groenlandicus	10.4308			
Thyasira gouldi	0.0255	0.0148	0.0113	0.0095
Pelecypod		0.0005		
NEMERTINA				
Nemertean	0.0595	0.1968	0.2385	0.0283

Table 10. (cont'd.)

Species	5c(31 m)	5d(43 m)	5e(58 m)	5f(73 m)
PLATYHELMINTHES:Turbellaria Turbellarian	0.0015	0.0205	0.0005	
PORIFERA Sponge	0.0700	0.7783	0.0015	0.0025
PRIAPULIDA *Priapulus caudatus*	0.0038			0.0003
SIPUNCULIDA Sipunculid	0.3395	0.0103	0.0513	0.1330
TOTAL	78.2768	73.7849	33.896i	21.7849

*Sample value used because of disproportionate representation.

Table 11. Associated data for trawl samples and biomass of zoobenthos collected by trawl from the station 5 area, 1968.

Trawl No.	Date	Time AST	Time GMT	Water Depth (m)	Ship Speed (knot)	Estimated Trawl Time (min.)	Sampled Area (m^2)	Dry Wt. Sample (g)	Biomass (g m^{-2})
OT-6	28 Aug 67	1710	2110	64-91	3	15	5556	-	-
OT-7	4 Sep 67	1158	1558	50	3	5	1852	-	-
OT-10	11 Sep 67	1310	1710	5[illegible]-66	3	2	741	-	-
OT-26	3 Aug 68	1030	1430	55-60	3	5	1157	3240.6	2.80
					4	5	[illegible]	3240.6	2.10
OT-27	4 Aug 68	1225	1665	60-65	3	2	[illegible]	2350.8	5.08
					4	2	617	2350.8	3.81
OT-28	4 Aug 68	1640	2040	60-65	3	2	463	2098.3	4.53
					4	2	617	2098.3	3.40
OT-29	7 Aug 68	1050	1450	55-60	3	1	232	1143.5	4.93
					4	1	309	1143.5	3.70
OT-30	7 Aug 68	1110	1510	64-74	3	1	232	638.4	2.75
					4	1	309	638.4	2.07

Table 12. Dry weight (g) of zoobenthos collected by trawl (OT) from the station 5 area, 1968.

Taxa	OT-26	OT-27	OT-28	OT-29	OT-30
ANNELIDA					
Hirudinea		0.1			
Polychaeta	42.9	50.3	32.2	7.2	8.4
ARTHROPODA					
Amphipoda	6.5	6.3	7.1	4.0	0.6
Cirripedia	8.7	13.7	1.5	0.9	6.9
Cumacea			*	*	*
Decapoda	54.9	48.2	30.1	6.6	10.2
Isopoda	1.4		*	*	*
Pycnogonida	47.0	72.3	33.3	14.6	10.7
BRACHIOPODA					
Brachiopod	4.3	0.1	3.7	*	0.1
CHORDATA					
Ascidiacea	969.9	632.0	611.6	61.9	170.1
ECHINODERMATA					
Asteroidea	34.2	19.2	12.4	3.3	7.2
Crinoidea	29.3		10.6	10.5	
Echinoidea			25.0		
Holothuroidea	2.1	210.9	52.7	2.4	57.9
Ophiuroidea	905.9	642.2	882.0	389.2	241.2
MOLLUSCA					
Cephalopoda	19.4	5.8	5.4	0.2	
Gastropoda	26.4	37.3	27.3	10.2	7.5
Pelecypoda	46.3	6.2	54.4	10.0	3.4
NEMERTINA					
Nemertean		0.4			
PORIFERA					
Sponge	1041.3	605.8	308.9	622.5	114.2
SIPUNCULIDA					
Sipunculid	0.1		0.1		
TOTAL	3240.6	2350.8	2098.3	1143.5	638.4

* less than 0.1 g

Table 13. Species of invertebrates collected by small otter trawl from station 5, 1968.

Species	OT-26 3 Aug	OT-27 4 Aug	OT-28 4 Aug	OT-29,30 7 Aug
ANNELIDA:Hirudinea				
Leech		X		
ANNELIDA:Polychaeta				
Antinoella badia		X	X	
Branchiomma infarcta	X			
Chone sp. a	X	X		
Enipo gracilis			X	
Euchone papillosa	X			
Euphrosine borealis		X	X	X
Flabelligera affinis		X	X	
Gattyana cirrosa		X	X	
Harmothoe extenuata			X	
Harmothoe imbricata		X		
Harmothoe nodosa		X	X	X
Harmothoe oerstedi		X	X	
Myriochele heeri		X		
Nephtys ciliata		X	X	
Phyllodoce groenlandica	X	X	X	X
Pista flexuosa	X	X	X	X
Pista maculata	X	X	X	X
Potamilla neglecta	X			
Sabella crassicornis	X	X		
Sabellides borealis	X		X	
Sphaerodorum gracile		X		
Syllis fasciata		X		
Thelepus cincinnatus	X	X	X	X
ARTHROPODA:Amphipoda				
Acanthonotozoma cristatum	X	X	X	
Acanthonotozoma serratum	X	X	X	
Aeginina longicornis				X
Anonyx nugax	X	X	X	X
Lepidepecreum umbo			X	
Paramphithoe hystrix		X	X	X
Pleustes panopla	X			
Schisturella pulchra				X
Socarnes bidenticulatus	X	X	X	X
Socarnes vahli		X	X	X

Table 13. (cont'd.)

Species	OT-26 3 Aug	OT-27 4 Aug	OT-28 4 Aug	OT-29,30 7 Aug
ARTHROPODA:Cirripedia				
Balanus balanus	X	X	X	X
Balanus crenatus	X	X	X	X
ARTHROPODA:Cumacea				
Diastylis goodsiri			X	X
ARTHOPODA:Decapoda				
Argis dentata	X	X		X
Eualus gaimardi	X	X		X
Sabinea septemcarinata	X			
Sclerocrangon boreas	X	X	X	X
Spirontocaris phippsi		X		
Spirontocaris spinus	X	X	X	X
ARTHROPODA:Ispoda				
Arcturus baffini	X			X
Synidotea sp. b			X	X
ARTHROPODA:Pycnogonida				
Boreonyrphon abyssorum	X	X	X	X
Nymphon elegans	X	X	X	X
Nymphon hirtipes	X	X	X	X
Nymphon longitarse			X	
Nymphon macrum			X	
Nymphon mixtum ?			X	
Pseudopallene brevicollis			X	
BRACHIOPODA				
Hemithyris psittacea	X	X	X	X
CHORDATA:Ascidiacea				
Ascidia callosa	X	X	X	X
Boltenia echinata		X		X
Boltenia ovifera				X
Ciona intestinalis	X	X	X	X
Kukenthalia borealis	X	X	X	X
Pelonaia corrugata			X	
Styela coriacea	X	X	X	X
Styela rustica	X		X	

Table 13. (cont'd.)

Species	OT-26 3 Aug	OT-27 4 Aug	OT-28 4 Aug	OT-29,30 7 Aug
ECHINODERMATA:Asteroidea				
Ctenodiscus crispatus	X		X	
Henricia eschrichti	X	X	X	X
Pteraster obscurus			X	
Pteraster pulvillus	X	X	X	X
Solaster syrtensis	X	X	X	X
ECHINODERMATA:Crinoidea				
Heliometra glacialis	X		X	X
ECHINODERMATA:Echinoidea				
Strongylocentrotus droebachiensis			X	
ECHINODERMATA:Holothuroidea				
Psolus fabricii	X	X	X	X
Thyonidium sp.		X		
ECHINODERMATA:Ophiuroidea				
Amphiura sundevalli			X	
Ophiacantha bidentata	X	X	X	X
Ophiocten sericeum			X	
Ophiopus arcticus	X	X	X	X
Ophiura robusta	X	X	X	X
Ophiura sarsi			X	
MOLLUSCA:Cephalopoda				
Bathypolypus arcticus	X			
Rossia molleri	X	X	X	X
Rossia palpebrosa			X	X
MOLLUSCA:Gastropoda				
Admete couthouyi	X	X	X	
Boreotrophon fabricii	X	X	X	X
Boreotrophon truncatus	X			
Buccinum hyropharum			X	X
Buccinum tenue			X	
Capulacmaea radiata	X	X		
Colus islandicus	X	X		

Table 13. (cont'd.)

Species	OT-26 3 Aug	OT-27 4 Aug	OT-28 4 Aug	OT-29,30 7 Aug
MOLLUSCA:Gastropoda				
Colus pubescens	X			X
Colus tortuosus	X	X	X	X
Cylichna alba	X	X	X	X
Lepeta caeca	X		X	
Lunatia pallida	X	X	X	
Margarites costalis	X	X	X	X
Margarites olivaceus	X	X	X	X
Margarites umbilicalis	X	X	X	X
Natica clausa	X			
Neptunea despecta	X	X	X	X
Nudibranch		X		
Oenopota declivis	X			
Oenopota turricula	X		X	
Onchidiopsis sp.	X	X	X	X
Tachyrhynchus reticulatus	X	X	X	
Taranis amoena			X	
Tectibranch	X	X	X	X
Trichotropis borealis		X	X	
Trichotropis conica	X	X	X	
Velutina plicatilis	X			
Velutina undata	X	X		X
Velutina velutina	X	X		
Velutina sp.		X		
MOLLUSCA:Pelecypoda				
Astarte borealis	X		X	
Astarte crenata	X			
Chlamys islandica				X
Clinocardium ciliatum	X		X	X
Hiatella arctica	X	X	X	X
Macoma calcarea	X			
Macoma moesta	X			
Musculus corrugatus	X			
Musculus discors	X	X	X	X
Musculus niger		X	X	X
Mya truncata	X			

Table 13. (cont'd.)

Species	OT-26 3 Aug	OT-27 4 Aug	OT-28 4 Aug	OT-29,30 7 Aug
MOLLUSCA:Pelecypoda				
Nucula belloti				X
Nuculana minuta	X	X	X	X
Nuculana pernula	X	X	X	X
Pandora glacialis	X			X
Pecten groenlandicus	X	X	X	
NEMERTINA				
Nemertean		X		
PORIFERA				
Mycale lingua	X	X	X	X
Polymastia mammillaris	X	X		
Tetilla sibirica	X	X	X	X
SIPUNCULIDA				
Golfingia eremita	X		X	

Table 14. Associated data for dredges and biomass of zoobenthos from dredges collected from the station 5 area, 1969-1973.

Dredge No.	Date	Time AST	Time GMT	Water Depth (m)	No. of dredges	Sampled area (m^2)	Dry Wt. (g)	Biomass ($g\ m^{-2}$)
D-2	27 Aug 69	1000	1400	64-66	5	372	271.3	0.7
D-3	30 Aug 69	1430	1830	53	4	264	1050.2	4.0
D-20	2 Aug 70	1015	1415	68	2	93	330.1	3.6
D-21	2 Aug 70	1045	1445	68	1	46	246.3	5.4
D-22	2 Aug 70	1150	1550	60	2	109	59.3	0.5
D-23	4 Aug 70	1045	1445	55-58	2	114	247.6	2.2
D-24	4 Aug 70	1400	1800	58	2	148	75.9	0.5
D-6	9 Aug 73	1130	1530	48	2	138	181.9	1.3
D-7	9 Aug 73	1410	1810	40	2	151	440.5	2.9
D-8	11 Aug 73	1415	1815	50	1	68	234.4	3.5
D-9	11 Aug 73	1515	1915	55	2	118	536.4	4.6
D-10	14 Aug 73	1330	1730	60	2	138	423.0	3.1
D-11	14 Aug 73	1445	1845	54	1	65	285.8	4.4

Table 15. Biomass of zoobenthos collected by dredge from the station 5 area, 1969-1973. Data presented in grams of dry weight.

Taxa	1969		1970					1973					
	D-2	D-3	D-20	D-21	D-22	D-23	D-24	D-6	D-7	D-8	D-9	D-10	D-11
ANNELIDA													
Hirudinea					0.1								
Polychaeta	6.0	14.0	10.4	8.4	4.6	15.9	6.1	8.5	40.6	4.3	25.6	10.1	16.1
ARTHROPODA													
Amphipoda	0.6	0.8	0.1	0.3	0.1			0.1	2.0	0.3	1.2	0.7	0.7
Cirripedia	0.8	1.3	0.1	9.8	0.2		0.2	0.1	6.7	1.4	0.3	0.2	0.4
Cumacea		0.6			0.2								
Decapoda	8.1	1.3	0.7		4.2	0.1	2.7	3.0	3.1	5.4	1.5	10.7	2.1
Isopoda	0.6		0.6	1.2			0.8		1.3	0.5	2.1		
Pycnogonida	2.2	7.6			1.2	1.1	1.1	0.5	7.4	3.1	1.4	2.2	1.3
BRACHIOPODA													
Brachiopods		0.4			0.1			0.6					
CHORDATA													
Ascidiacea	24.2	494.0	12.0	48.2	11.4	144.0	31.3	120.7	49.7	148.7	222.2	18.0	49.9
COELENTERATA													
Anthozoa													1.6
Hydrozoa					0.1								
ECHINODERMATA													
Asteroidea	4.8	2.4	0.5	0.3		0.3	0.2		19.8		6.7		5.1
Crinoidea		38.1	8.5					2.5	0.8				8.0
Echinoidea						2.0			37.5		117.7		2.6
Holothuroidea						12.2		2.3	14.5			11.0	
Ophiuroidea	66.5	359.5	13.7	21.2	31.7	19.2	27.9	28.6	140.4	48.3	38.1	103.8	59.6

Table 15. (cont'd.)

Taxa	1969		1970					1973					
	D-2	D-3	D-20	D-21	D-22	D-23	D-24	D-6	D-7	D-8	D-9	D-10	D-11
ECTOPROCTA													
Bryozoans	1.4	0.3			0.1	0.2				0.3			
MOLLUSCA													
Amphineura	0.3												
Cephalopoda		0.1			0.2					0.3			
Gastropoda	4.2	8.7	0.2	1.0	0.4	1.8	0.3	2.1	13.3	4.5	3.5	4.6	0.5
Pelecypoda	5.0	21.2	0.1	3.3	4.5	48.5	0.8	12.9	14.4	0.8	41.6	8.8	5.0
PORIFERA													
Sponges	146.1	99.5	283.2	151.3	0.1	2.3	4.0		85.1	16.2	74.5	252.5	131.8
MISCELLANEOUS													
Unidentified	0.5	0.4		1.3	0.1		0.5		3.9	0.3		0.4	1.1
TOTAL	271.3	1050.2	330.1	246.3	59.3	247.6	75.9	181.9	440.5	234.4	536.4	423.0	285.8

Table 16. Identified species of zoobenthos collected by dredge from the station 5 area, 1969-1973.

Species	1969		1970					1973					
	D-2	D-3	D-20	D-21	D-22	D-23	D-24	D-6	D-7	D-8	D-9	D-10	D-11
ANNELIDA:Hirudinea													
Leech					X								
ANNELIDA:Polychaeta													
Branchiomma infarcta		X		X			X	X					
Enipo gracilis	X	X			X	X	X	X				X	
Euchone papillosa		X											
Euphrosine borealis				X									
Flabelligera affinis				X									
Harmothoe extenuata	X	X		X		X			X	X	X	X	X
Harmothoe imbricata	X	X		X		X			X	X	X	X	X
Harmothoe nodosa								X	X			X	X
Myriochele heeri	X	X			X		X	X		X		X	X
Nephtys ciliata	X	X				X				X	X		X
Nephtys paradoxa		X				X			X				
Nicomache lumbricalis	X	X			X	X	X	X				X	
Pista flexuosa	X	X			X		X	X	X	X		X	
Pista maculata	X	X	X	X	X	X	X	X	X	X	X	X	X
Sabella crassicornis		X											
Thelepus cincinnatus		X	X	X		X	X		X				
ARTHROPODA:Amphipoda													
Stegocephalus inflatus			X	X									
ARTHROPODA:Cirripedia													
Balanus balanus	X	X	X	X	X		X	X	X	X	X	X	X
Balanus crenatus		X											

Table 16. (cont'd.)

Species	1969		1970					1973					
	D-2	D-3	D-20	D-21	D-22	D-23	D-24	D-6	D-7	D-8	D-9	D-10	D-11
ARTHROPODA: Cumacea													
Diastylis goodsiri		X			X								
ARTHROPODA: Decapoda													
Argis dentata										X			
Eualus gaimardi									X				X
Lebbeus polaris			X										
Sabinea septemcarinata		X			X								
Sclerocrangon boreas	X		X					X				X	
Spirontocaris phippsi	X											X	
Spirontocaris spinus	X	X			X	X	X	X	X	X	X	X	X
ARTHROPODA: Isopoda													
Arcturus baffini			X	X			X		X	X	X		
ARTHROPODA: Pycnogonida													
Nymphon hirtipes	X	X			X	X	X	X	X	X	X	X	X
BRACHIOPODA													
Hemithyris psittacea		X			X			X					
CHORDATA: Ascidiacea													
Ascidia callosa	X	X				X	X	X	X	X	X		
Boltenia echinata		X											
Boltenia ovifera	X	X					X			X	X		
Botrylloides aureum	X	X											X

Table 16. (cont'd.)

Species	1969		1970					1973					
	D-2	D-3	D-20	D-21	D-22	D-23	D-24	D-6	D-7	D-8	D-9	D-10	D-11
CHORDATA:Ascidiacea													
Ciona intestinalis	X	X	X	X	X	X	X	X	X	X	X	X	X
Didemnum albidum		X											
Halocynthia pyriformis								X		X			
Kukenthalia borealis	X	X							X	X	X		X
Molgula sp.	X	X						X			X		
Styela rustica		X						X					
COELENTERATA:Anthozoa													
Halcampa arctica													X
ECHINODERMATA:Asteroidea													
Henricia eschrichti				X		X	X						
Henricia scabrior													X
Pteraster militaris	X	X											
Solaster papposus									X		X		
Solaster syrtensis		X	X										
ECHINODERMATA:Crinoidea													
Heliometra glacialis		X	X					X	X				X
ECHINODERMATA:Echinoidea													
Strongylocentrotus droebachiensis						X			X		X		X
ECHINODERMATA.Holothuroidea													
Cucumaria calcigera								X					
Psolus fabricii								X	X			X	
Thyonidium sp.						X							

Table 16. (cont'd.)

Species	1969		1970					1973					
	D-2	D-3	D-20	D-21	D-22	D-23	D-24	D-6	D-7	D-8	D-9	D-10	D-11
ECHINODERMATA:Ophiuroidea													
Ophiacantha bidentata	X	X	X	X	X	X	X	X	X	X	X	X	X
Ophiocten sericeum		X			X								
Ophiopus arcticus	X	X	X	X	X	X	X	X	X	X	X	X	X
Ophiura sarsi		X										X	
Stegophiura nodosa					X								
ECTOPROCTA													
Alcyonidium gelatinosum										X			
MOLLUSCA:Amphineura													
Tonicella marmorea	X												
MOLLUSCA:Cephalopoda													
Rossia molleri		X			X					X			
MOLLUSCA:Gastropoda													
Admete couthouyi		X							X				
Boreotrophon fabricii	X	X		X		X			X	X	X		
Colus islandicus											X		X
Colus pubescens		X								X			
Colus tortuosus		X			X			X	X	X	X	X	
Cylichna alba		X			X	X			X				
Lepeta caeca		X				X	X						
Lunatia pallida		X				X	X						
Margarites groenlandicus		X							X				
Margarites olivaceus		X					X						

Table 16. (cont'd.)

Species	1969		1970					1973					
	D-2	D-3	D-20	D-21	D-22	D-23	D-24	D-6	D-7	D-8	D-9	D-10	D-11
MOLLUSCA:Gastropoda													
Margarites umbilicalis									X				
Natica clausa									X				
Neptunea despecta	X								X				
Tachyrhynchus reticulatus									X				
Trichotropis borealis		X											
Trichotropis conica		X											
Velutina undata		X				X	X		X				
Volutopsius norvegicus										X			
MOLLUSCA:Pelecypoda													
Astarte borealis	X	X			X	X		X	X			X	
Astarte montagui									X			X	
Clinocardium ciliatum		X		X	X			X			X		
Hiatella arctica	X	X		X	X	X	X	X	X	X	X	X	X
Macoma moesta					X			X					
Musculus corrugatus		X			X			X					
Musculus discors	X	X		X	X	X	X	X	X	X	X	X	
Musculus niger		X					X	X		X		X	
Mya truncata		X				X			X		X		X
Nucula belloti					X	X							
Nuculana minuta	X	X			X	X		X	X				
Nuculana pernula		X			X			X	X				
Pandora glacialis	X	X			X								
Pecten groenlandicus		X					X						
Periploma abyssorum					X	X							
Serripes groenlandicus									X				

Table 16. (cont'd.)

Species	1969		1970					1973					
	D-2	D-3	D-20	D-21	D-22	D-23	D-24	D-6	D-7	D-8	D-9	D-10	D-11
PORIFERA													
Mycale lingua	X		X	X					X	X	X	X	
Polymastia mammillaris	X								X			X	
Tetilla sibirica	X	X										X	X

Table 17. Biomass of algae (mostly Phyllophora sp.) collected by grab from the station 5 area, 1967-1969.

Station	Date	Water depth (m)	Sampled area (m^2)	Dry wt. (g)	Biomass (g m^{-2})
67-5a	10 Dec 67	37	0.39	1[illegible].00	37.50
68-5a	13 Feb 68	30	0.33	5.79	17.37
68-5a	30 Apr 68	26	0.39	6.80	17.00
68-5a	1 Aug 68	26	0.39	13.89	34.73
68-5a	20 Aug 68	32	0.39	11.63	29.08
69-5c	23 Aug 69	31	0.39	3.11	7.76
69-5d	23 Aug 69	43	0.39	1.09	2.72
69-5e	23 Aug 69	58	0.39	-	-
69-5f	23 Aug 69	73	0.39	0.57*	1.43*

*Represented by Laminaria sp.

Table 18. Biomass of algae (mostly Laminaria sp.) collected by dredge (D) and trawl (OT) from the station 5 area, 1968-1973.

Station	Date	Water depth (m)	Speed of ship (knots)	Trawl time (min.)	Sampled area (m^2)	Dry wt. (g)	Biomass ($g\ m^{-2}$)
D-20	2 Aug 70	68	-	-	93	5.5	0.0591
D-21	2 Aug 70	68	-	-	46	1.3	0.0283
D-23	4 Aug 70	55-58	-	-	114	154.0	1.3509
D-24	4 Aug 70	58	-	-	148	2.2	0.0149
D-6	9 Aug 73	48	-	-	138	21.5	0.1558
D-7	9 Aug 73	40	-	-	151	73.4	0.4861
D-9	11 Aug 73	55	-	-	118	91.0	0.7712
D-10	14 Aug 73	60	-	-	138	2.1	0.0152
OT-26	3 Aug 68	55-60	3	5	1157	251.8	0.2176
			4	5	1543	251.8	0.1673
OT-27	4 Aug 68	60-65	3	2	463	760.0	1.6239
			4	2	617	760.0	1.2318
OT-28	4 Aug 68	60-65	3	2	463	341.7	0.7301
			4	2	617	341.7	0.5538
OT-29	7 Aug 68	55-60	3	1	232	73.9	0.3185
			4	1	309	73.9	0.2392
OT-30	7 Aug 68	64-74	3	1	232	121.6	0.5241
			4	1	309	121.6	0.3935

Table 19. Biomass of benthic fish collected by dredge (D) and trawl (OT) from the station 5 area, 1968-1973.

Station	Date	Speed of ship (knots)	Sampled area (m^2)	Dry wt. (g)	Biomass (g m^{-2})
D-2	27 Aug 69	-	372	0.5	0.0013
D-3	30 Aug 69	-	264	2.7	0.0102
D-20	2 Aug 70	-	93	0.3	0.0032
D-24	4 Aug 70	-	148	0.1	0.0007
D-7	9 Aug 73	-	151	3.5	0.0232
D-8	11 Aug 73	-	68	0.6	0.0088
D-11	14 Aug 73	-	65	0.5	0.0077
OT-26	3 Aug 68	3	1157	23.8	0.0206
		4	1543	23.8	0.0154
OT-27	4 Aug 68	3	463	18.2	0.0393
		4	617	18.2	0.0295
OT-28	4 Aug 68	3	463	37.4	0.0808
		4	617	37.4	0.0606
OT-29	7 Aug 68	3	232	9.6	0.0414
		4	309	9.6	0.0311
OT-30	7 Aug 68	3	232	2.8	0.0121
		4	309	2.8	0.0091

Table 20. Species of fish collected by grab, dredge, and trawl from the station 5 area, 1967-1973.

Species
Anisarchus medius
Aspidophoroides olrikii
Boreogadus saida
Eumicrotremus derjugini
Gymnelis retrodorsalis
Gymnelis viridis
Icelus bicornis
Icelus spatula
Leptoclinus maculatus
Liparis tunicatus
Lumpenus fabricii
Lycodes jugoricus
Lycodes polaris
Lycodes rossi
Reinhardtius hippoglossoides
Triglops murrayi

Table 21. Particle-size distribution (Wentworth Scale) and pH of sediments collected by grab from stations in upper Frobisher Bay, 1968-1973.

Station	Date	Water Depth (m)	Sand (.063-2.0mm) %	Silt (.004-.063mm) %	Clay (<.004mm) %	pH (0.01 M $CaCl_2$)
68-5a	1 Aug 68	26	25	30	45	7.2
69-5a	2 Sep 69	36	12	28	60	7.5
68-5	20 Aug 68	60	20	29	51	7.6
69-5	2 Sep 69	53	16	25	59	7.3
69-5	2 Sep 69	60	10	28	62	7.4
73-5	23 Mar 73	54	16	37	47	6.9
69-5c	23 Aug 69	31	31	26	43	7.5
69-5d	23 Aug 69	43	16	26	58	7.1
69-5e	23 Aug 69	58	20	33	47	7.1
69-5f	23 Aug 69	73	17	32	51	7.1
69-5g	2 Sep 69	90	14	27	59	7.4

Table 22. Levels of nitrate-nitrogen, ammonia-nitrogen, total nitrogen, organic carbon, and carbon-nitrogen ratio of sediments collected by grab from stations in upper Frobisher Bay, 1968-1973.

Station	Water Depth (m)	NO_3-N (µg/g)	NH_4-N (µg/g)	Total N (mg/g)	Organic C (%)	C/N Ratio
68-5a	26	-	-	2.61	1.86	7.13
69-5a	36	-	-	-	-	-
68-5	60	-	-	1.80	1.45	8.06
69-5	53	-	-	-	-	-
69-5	60	-	-	-	-	-
73-5	54	0.56	62.55	2.13	2.38	11.2
69-5c	31	-	-	1.80	1.57	8.72
69-5d	43	-	-	2.12	1.57	13.5
69-5e	58	-	-	2.18	1.39	15.7
69-5f	73	-	-	1.85	1.91	10.3
69-5g	90	-	-	-	-	-

Table 23. Levels of potassium, calcium, magnesium, and phosphorus in sediments collected by grab from stations in upper Frobisher Bay, 1968-1973.

Station	Water Depth (m)	Ammonium Acetate Extractable			Extractable P (µg/g)	Total P (mg/g)
		K (µg/g)	Ca (µg/g)	Mg (µg/g)		
68-5a	26	1070	1700	1860	165	0.928
69-5a	36	-	-	-	-	-
68-5	60	890	2800	1100	160	0.930
69-5	53	-	-	-	-	-
69-5	60	-	-	-	-	-
73-5	54	1180	2900	2260	210	0.90
69-5c	31	680	2850	1000	85	0.691
69-5d	43	870	1400	1440	130	0.944
69-5e	58	880	1175	1500	165	1.03
69-5f	73	830	1800	1200	125	0.856
69-5g	90	-	-	-	-	-

Table 24. Levels of iron, manganese, zinc, copper, and silicon in sediments collected by grab from stations in upper Frobisher Bay, 1968-1973.

Station	Water Depth (m)	HCl Extractable Fe (µg/g)	HCl Extractable Mn (µg/g)	HCl Extractable Zn (µg/g)	Extractable Cu (µg/g)	Extractable Si (µg/g)
68-5a	26	3380	24.8	14.0	2.3	21.0
69-5a	36	-	-	-	-	-
68-5	60	4380	33.5	14.0	2.0	14.6
69-5	53	-	-	-	-	-
69-5	60	-	-	-	-	-
73-5	54	3900	60.0	23.0	3.0	25.05
69-5c	31	2370	23.0	12.5	2.3	23.2
69-5d	43	3370	23.8	15.0	2.8	21.8
69-5e	58	3750	25.0	14.5	3.0	21.9
69-5f	73	2880	24.5	19.0	3.0	22.9
69-5g	90	-	-	-	-	-

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